Finans Ekonomi ve Sosyal Araştırmalar Dergisi, Cilt.9 Sayı.4, Aralık 2024
Research of Financial Economic and Social Studies, Vol.9 No.4, December 2024
ISSN : 2602 – 2486

ARE THE BALKAN COUNTRIES CONVERGING IN TERMS OF TOURISM AND ENVIRONMENTAL POLICIES?[1,2]

BALKAN ÜLKELERİ TURİZM VE ÇEVRE POLİTİKALARI KAPSAMINDA YAKINSIYOR MU?

Mahmut Kadir İŞGÜVEN [*] *Ayberk ŞEKER* [**]

Araştırma Makalesi / *Geliş Tarihi: 22.10.2024*
Kabul Tarihi: 31.12.2024

Öz

Ülkelerin çıkarları söz konusu olsa da Balkan ülkelerinde çevre koruma faaliyetlerinin ve sürdürülebilir turizmin teşvik edilmesi için ortak politikaların geliştirilmesi gerekmektedir. Balkan ülkelerinin önemli bölümü Avrupa Birliği'ne üye olması ve çevre mevzuatına uyum sağlanması sebebiyle sürdürülebilir turizm politikalarının geliştirilmesi hızlanmıştır. Bu çalışma ile Balkan ülkelerinde karbon emisyonu, gelen turist sayıları, enerji tüketimi ve şehirleşme düzeyleri açısından yakınsama modeli vasıtasıyla analiz edilmiştir. Analizler sonucunda, Balkan ülkeleri genelinde tüm değişkenlerde yakınsama görülmemekle birlikte, karbon emisyonu miktarında, gelen turist sayılarında, elektrik tüketiminde ve şehirleşme düzeylerinde ülkelerin alt gruplar içerisinde koşullu yakınsadıkları görülmüştür. Yakınsama modelinin sonuçları, Balkan ülkelerinin alt kümeler halinde birbirlerine yakınsadıklarını, ancak Balkan ülkeleri genelinde bu yakınsamanın olmadığını göstermektedir. Sonuç olarak, Balkan ülkelerinin kendi aralarında çevre politikaları ve sürdürülebilir turizm faaliyetleri açısından giderek yakınlaştıkları, fakat bu sürecin sonunda başarı elde edilebilmesi için Balkan ülkeleri genelinde iş birliğinin sağlanması önem arz etmektedir.

Anahtar Kelimeler: Turizm, Çevre, Yakınsama Modeli.

JEL Sınıflaması: B23, Q56, Z32.

Abstract

Despite varying national interests, it is essential to develop joint policies to promote environmental protection activities and sustainable tourism in the Balkan countries. The acceleration of sustainable tourism policy development in the Balkans is largely due to the membership of many Balkan countries in the European Union and the requirement to comply with environmental regulations. This study analyzes carbon emissions, tourist arrivals, energy consumption, and urbanization levels in the Balkan countries through a convergence model. The analysis reveals that, while convergence across all variables is not observed throughout the Balkans, conditional convergence is evident within subgroups of countries in terms of carbon emissions, tourist arrivals, electricity consumption, and urbanization levels. The results indicate that the Balkan countries converge within specific subgroups, though this convergence is not uniform across the region. Ultimately, while Balkan countries are progressively aligning their environmental policies and sustainable tourism practices, achieving long-term success will require enhanced cooperation across the entire Balkan region.

Keywords: Tourism, Environment, Convergency Model.

JEL Classification: B23, Q56, Z32.

[1] **Bibliyografik Bilgi (APA):** FESA Dergisi, 2024; 9(4) , 414 - 423 / DOI: 10.29106/ fesa.1571788

[2] This study is the improved version of the paper presented at III. International Congress On Finance, Economy And Sustainable Policies (ICOFESP), Tirana, 19-21 September, 2024.

[*] Asst. Prof. Dr., Bursa Technical University, Faculty of Humanities and Social Sciences, mkadir.isguven@btu.edu.tr, *Bursa – Türkiye*, ORCID: 0000-0001-9496-6452

[**] Assoc. Prof. Dr., Bursa Teknik Üniversitesi, Faculty of Humanities and Social Sciences, ayberk.seker@btu.edu.tr, *Bursa – Türkiye*, ORCID: 0000-0001-7750-6286

1. Introduction

Since the early 1990's, Balkan countries has been getting closer to European Union despite several existing disputes in the area. Regional fragments also interfered with the development of international trade and capital flows. Due to several factors such as country risk and technological infrastructure, economic development in the region has fallen behind (Bartlett, 2009: 22-23). Contrary to this, tourism has been growing within the limitations of the region. These limitations are caused by both unstable economies and political uncertainties, hence slowing down the potential to create a regional application to enhance tourism (Hall, 2000: 31-33).

Balkan region has become a tourism preference in the following years by offering new options: leisure, religion, sport activities, health, and so on. Even though finding new ways to attract more people made some parts of the area a center in tourism industry, the region is still behind the competitors. On the other hand, tourism sector is expected to grow and contribute to economic development (Knežević et al., 2017: 301-302). Accordingly, Özyurt & Kantarcı (2017: 90) indicates that competition and economic achievements are related to sustainability. The connection is rather significant in the policymaking, since tourism indicators are affected by environmental awareness.

The level of environmental policies' implementation in the Balkan countries differ as well as the level of emissions in each country (Prendi & Murrja, 2023: 219-220). Another research by Sanfey et al. (2016: 2) also states that living conditions diverge within the countries. Preventative applications in use of energy sources and infrastructure as well as policies can help mitigate the situation. However, Sergi (2001: 108-109) highlights that international implementations may be limited without inner stability.

In the industry of tourism, environmental policies and sustainability are significant in growth. Collaboration in these fields is also important due to challenges in the industry (Spalevic, 2023: 454-455). A study by Vukadinovic (2023) also draws attention to environmental challenges and effects of these challenges to the economies in the region. Hence, both local and international policies, namely European Union, are significant to overcome challenges presented by tourism activities and environment.

The challenges related to international trade and financial environment require protective implementations, thus limiting economic activities. Hence, protectionists policies may result in favor of exports (Keskin and Aydoğdu Bağcı, 2024: 799). Such practices may not always be in the best interest of a country since they may be implemented just to enhance economic activities without considering environmental effects.

Developing common policies to promote environmental protection activities and sustainability in tourism is important in the Balkan countries, though countries might have their own interests. Although, becoming a member to the European Union accelerates the implementation of sustainable tourism policies due to environmental requirements. Analyses on the region with respect to tourism and environmental policies are of importance to the literature. In this manner, this research analyzes the variables carbon emissions, tourist arrivals, energy consumption, and urbanization by the convergence model levels in the Balkan countries. The results provide significant policy suggestions to region.

2. Literature Review

Tourism and environmental policies play a significant role in economy. The roles can be explained by several relationships such as eco-tourism and environmental governance, tourism and sustainability, environmental policies and activism, and development in tourism and environmental policies. These subjects are of importance for the recent literature.

Eco-tourism and environmental governance are one of the areas covered in the recent literature. Shang et al. (2023) highlights the causal relationship between green governance and eco-tourism in developing economies and focuses on Balkans. The importance of the study is that it highlights how sensitive tourism in the region to economic indicators and geopolitics of the region. It also emphasizes to implement environmental policies to reach eco-tourism object. Another area stands out as tourism and sustainability. Shang et al. (2023: 7-8) suggests that regional sustainability is a key factor in terms of environmental degradation and CO_2 emissions. In order to reduce the effects of tourism-related harm in the region, policies should align across the countries.

Increasing environmental awareness pushes policymaking process to consider new approaches. According to The Balkan Forum (2022), policies in the Western Balkans are subject to this awareness and have to be implemented accordingly. Sustainable tourism goals of the countries need to account for difficulties presented by the tourism activities. Another research by Porfido (2020: 40-42) investigates how tourism development and policies regarding to environment are interacted in Western Balkans. According to the study, aligning policies are necessary to enhance economic growth while maintaining resources. More related research on the convergence, tourism, and environmental policies are given in Table 1.

Table 1: Literature Review

Author	Year	Subject	Methodology	Sample	Results
Ateljevic & Mitrovic	2024	EU's regional policies on tourism developments	Review	Bosnia and Herzegovina	Regional policies to enhance tourism results in economic growth
Beka et al.	2024	The role of environmental degradation on economy	Panel Data Analysis	OECD and Western Balkans	CO2 emission is influenced by inflation, business freedom, political stability
Ignjatović et al.	2024	Green transition	Review	Western Balkans	National strategies should be implemented, energy sector has challenges, opportunities in renewable energy usage and circular economy
Akbulaev	2023	The relationship between FDI, tourism, economy environment	Panel Data Analysis	Morocco, Zimbabwe, Mauritius, and Ethiopia	Tourism and CO2 effects each other significantly
Haller & Tacu Hârșan	2023	The relationship between tourism and environment	Longitudinal Data Analysis	Bulgaria, Romania and Türkiye	Tourism influences environment. International tourism receipts are not sustainable, but travel item receipts are. Different factors affect sustainability in each country.
Meșter et al.	2023	The relationship between the variables	Panel ARDL	European Union	In some countries tourism and GDP per capita is related in the short term. Tourism development index is affected by trade openness.
Mitić et al.	2023	Causal relationships of the variables	Panel Data Analysis	Southeast Europe	Short term bidirectional relationships between some variables, notably energy and employment. Long term unidirectional relationships, notably from energy to GDP

Pantović et al.	2023	Sustainable tourism	Entropy Method	European Union	Uniformness of variables helps sustainability in regard to environment
Destek & Aydin	2022	The role of tourism on sustainable development	STIRPAT, Second gen panel data	10 most visited countries	Economic growth is affected positively by tourism, energy intensity, and urbanization. These variables affect sustainable development index negatively
Pantović et al.	2022	Convergence in tourism competitiveness	Entropy Method	Balkans and Eastern Europe	Resources from nature and culture plays a significant role in tourism
Weiss	2020	Regional economic integrations	Review	Western Balkans	EU's strategy of regional cooperations has arrived late in the Balkans. Policies in the Balkans are imperfect
Xhaja & Kordha	2017	Information and communication technologies and their role on convergence	Time Series Analysis	Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia	Western Balkans are slightly converging to EU in terms of productivity but not in GDP per capita. Albania's convergence level is lesser than other countries.
Ozcan & Erdogan	2017	Convergence of Türkiye's tourist attractions	LM and RALS-LM	Türkiye	10 tourist attractions are found to be converging, hence policies implemented are meaningful
Selimi et al.	2017	Tourism and economic growth	Panel Data Analysis	Western Balkans	Tourism affects economic growth positively
Djordjevic	2014	International organizations' role in regionalization of environmental policies	Review	Southeast Europe	Regional policies to utilize the mountain ranges in SEE is evident. The importance of sustainable development and biodiversity is highlighted.

Karakosta et al.	2012	Renewable energy progress	Comparative Analysis	Bosnia and Herzegovina, Serbia	Renewable energy development on institutional level is slow in Bosnia and Herzegovina while Serbia's level is efficient
Albu	2011	Changes in economy as a factor of convergence	Spatial distribution, Simulations	European Union and Adriatic-Balkans Region	Convergence of EU is affected negatively in crisis. New members are affected the most

Recent literature indicates that Balkan Countries are in the progress of advancement in terms of converging tourism policies as well as environmental policies. On the other hand, challenges present significant gaps in aforementioned policies. European Union plays an accelerating role in the member countries of the region by obligatory legislations. In compliance with the literature given in Table 1, this research focuses on the analysis indicated by convergence model in the Balkan Countries with the following variables: CO_2 emissions, tourist arrivals, energy consumption, and urbanization levels.

3. Data and Methodology

This paper investigates which clusters of converging countries belong to in the Balkans by utilizing the convergence models proposed by Philips & Sul (2007) to assess tourism and environmental policies. Data on carbon emissions, economic growth, tourist arrivals, energy consumption and urbanization levels of the Balkan countries are used within the scope of the research. Carbon emissions and electricity consumption data are gained from the International Energy Agency, while tourist arrivals were obtained from the UN Tourism Statistics Database. Data on gross domestic product and the ratio of urban population to total population are obtained from the World Bank database. The series used in the paper are annual and belong to the period between 1995-2021. Information about the variables used in the paper is as follows:

$ln(co2)$: Greenhouse Gases of Balkan Countries (MtCO2e)

$ln(gdp)$: Gross Domestic Product of Balkan Countries (current US$)

$ln(arrivals)$: Tourist Arrivals in Balkan Countries (Thousands)

$ln(electricity)$: Electricity Consumption of Balkan Countries (TWh)

$ln(urban)$: Urban population (% of total population)

The stationarity of the variables is analyzed using the Im et al. (2003) and Breitung (2000) panel unit root tests, followed by an examination of convergence or divergence among Balkan countries via the convergence models developed by Philips & Sul (2007). Then, the causal relationships between the variables are investigated through the Dumitrescu & Hurlin (2012) causality test.

It is necessary for the variables to be stationary at their levels or first differences in the search of the analysis of the relationships between variables. The stationarity of the variables is tested using panel unit root tests developed by Im et al. (2003) (1,2) and Breitung (2000) (3). The models for the unit root tests are presented below:

$$\Delta y_{it} = \alpha y_{it-1} + \sum_{j=1}^{\rho_i} \beta_{ij} \Delta y_{i,t-j} + X'_{it}\delta + \varepsilon_{it} \quad (1)$$

$$\Gamma_{\bar{t}} = \frac{\sqrt{N}\{\bar{t}_{NT} - E(t_T|\rho_i=0)\}}{\sqrt{Var(t_T|\rho_i=0)}} \quad (2)$$

$$\Gamma_{\bar{t}} = \frac{\sqrt{N}\{\bar{t}_{NT} - E(t_T|\rho_i=0)\}}{\sqrt{Var(t_T|\rho_i=0)}} \quad (3)$$

This paper employed the nonlinear time-varying factor model developed by Philips & Sul (2007) to examine the convergence hypothesis. This convergence analysis does not assume whether the variables are trend stationary or not stochastically stationary. The log-t test is chosen for the convergence analysis because it provides more accurate and consistent results compared to traditional convergence models (Şimdi, 2021: 561). Phillips & Sul (2007) argue that it is crucial to utilize additional econometric techniques to examine convergence as part of heterogeneity among individuals and to analyze the evolution of heterogeneity over time and across groups. If the

null hypothesis cannot be rejected in the model, there is neither convergence nor divergence. If the null hypothesis is rejected, it can be said that there is divergence or convergence between the relevant units by looking at the sign of the t-score.

Following the convergence analysis, the causal relationships among the variables are tested using the Dumitrescu & Hurlin (2012) panel causality test. Dumitrescu & Hurlin (2012) state that the causal relationship yields effective and reliable results as the number of observations increases. Additionally, it provides consistent results even if the time dimension is larger or smaller than the unit dimension. The Dumitrescu & Hurlin panel causality test model is as follows (4):

$$Y_{i,t} = a_i + \sum_{k=1}^{k} Y_i^{(k)} Y_{i,t-k} + \sum_{k=1}^{k} \beta_i^{(k)} X_{i,t-k} + e_{i,t} \quad (4)$$

Dumitrescu & Hurlin (2012) examine the hypothesis that the homogeneous Granger causality relationship disappears across all units with the counter-hypothesis that this relationship exists in at least one unit.

4. Empirical Results

The stationarity of the series must first be tested in order to obtain consistent results from panel data analysis. If the series are not stationary, the relationships identified between the variables may be spurious. In this context, unit root tests developed by Im et al. (2003) and Levin et al. (2002) are initially performed for the convergence analysis of the Balkan countries.

Table 2. Panel Unit Root Test Results

Variables		Im, Pesaran & Shin		Levin, Lin & Chu	
		Constant	Constant+Trend	Constant	Constant+Trend
$ln(co2)$	Level	-3.077***	-4.488***	-3.887***	-4.333***
$ln(gdp)$		-0.665	-4.807***	-4.445***	-4.729***
$ln(arrivals)$		-1.567**	-1.443*	-3.393***	-1.121
$ln(electricity)$		-1.829**	-1.511*	-4.025***	-0.996
$ln(urban)$		-4.703***	-2.895***	-10.657***	-1.014
$ln(co2)$	First Difference	-14.251***	-11.471***	-11.819***	-6.906***
$ln(gdp)$		-4.449***	-4.487***	-4.729***	-4.306***
$ln(arrivals)$		-12.747***	-11.126***	-12.954***	-10.643***
$ln(electricity)$		-9.651***	-9.975***	-9.632***	-10.071***
$ln(urban)$		-4.949***	-97.307***	-6.002***	-80.623***

Note: ***, ** and * refer to significance at 1%, 5% and 10% levels respectively.

Table 2 presents the Im, Pesaran, & Shin (2003) and Levin, Lin, & Chu (2002) unit root test results for the variables. Upon examining the results, it is determined that the variables are stationary at their levels and first differences, so variables did not contain unit roots. Moreover, there is no assumption about the stationarity of the variables for the application of the convergence model.

In this study, if the t-score obtained from the one-tailed t-statistic is higher than "-1.65", the coefficient is considered statistically significant (Du, 2017). If the coefficient is higher than "2", there is absolute convergence among the countries in the club; if it is less than "2" but positive, there is conditional convergence. If the coefficient is statistically significant and less than zero, a divergence process is observed among the countries.

Table 3. CO_2 Emissions Convergence of Balkan Countries

Clubs	Countries	Coefficient	T-Statistics
	Balkan Countries	-1.562	-55.856
Club 1	Bosnia, Bulgaria, Romania, Serbia, Greece	0.135	2.423
Club 2	Croatia, Slovenia	-0.005	-0.046
Club 3	Albania, North Macedonia	0.229	7.242
Club 4 (Not Convergence)	Montenegro, Türkiye	-0.729	-64.281

Table 3 presents the convergence analysis results for carbon emissions in Balkan countries, revealing that these countries generally do not exhibit a convergence process according to the results. Besides, it has been determined that Bosnia-Herzegovina, Bulgaria, Romania, Serbia and Greece in the first club and Albania and North Macedonia

in the third club are in the process of conditional convergence. It is seen that Montenegro and Türkiye do not participate in any club and they have conditional divergence from the Balkan countries.

Table 4. GDP Convergence of Balkan Countries

Clubs	Countries	Coefficient	T-Statistics
	Balkan Countries	-0.778	-43.335
Club 1	Bulgaria, Croatia, Greece, Romania, Serbia, Slovenia	-0.036	-1.436
Club 2	Albania, Bosnia, Montenegro, North Macedonia, Türkiye	-0.691	-52.362

The results of the convergence analysis of gross domestic product are shown in Table 4. According to the results, there is no convergence process in the Balkan countries regarding GDP data. However, Albania, Bosnia, Montenegro, North Macedonia, and Türkiye demonstrate a conditional divergency process within the region.

Table 5. Tourist Arrivals Convergence of Balkan Countries

Clubs	Countries	Coefficient	T-Statistics
	Balkan Countries	-0.306	-9.518
Club 1	Croatia, Greece, Türkiye	0.378	6.508
Club 2	Albania, Bosnia, Bulgaria, Montenegro, North Macedonia, Romania, Serbia, Slovenia	0.006	0.356

Table 45shows the results of the convergence analysis regarding the tourist arrivals the Balkan countries. According to the results, Croatia, Greece and Türkiye have a conditional convergence process in club 1, while there is a divergence process in terms of tourist arrivals in the Balkan countries.

Table 6. Electricity Consumption Convergence of Balkan Countries

Clubs	Countries	Coefficient	T-Statistics
	Balkan Countries	-1.487	-145.113
Club 1	Greece, Romania	3.693	4.644
Club 2	Bosnia, Croatia, Slovenia	0.504	28.249
Club 3	Albania, North Macedonia	6.332	3.458
Club 4 (Not Convergence)	Bulgaria, Montenegro, Serbia, Türkiye	-1.254	-110.155

Table 6 provides the convergence analysis results for electricity consumption in Balkan countries. It is showed a divergence process in these countries generally. As a result of the analysis, it is observed that clusters 1 and club 3 have absolute convergence process, while it is found that club 2 have a conditional convergence process. However, it is observed that Bulgaria, Montenegro, Serbia and Türkiye do not participate any convergent club in the Balkan countries.

Table 7. Urbanization Convergence of Balkan Countries

Clubs	Countries	Coefficient	T-Statistics
	Balkan Countries	-0.651	-179.645
Club 1	Albania, Bulgaria, Greece, Türkiye	0.649	9.837
Club 2	Bosnia, Croatia, North Macedonia, Serbia, Slovenia	0.176	5.203
Club 3 (Not Convergence)	Montenegro, Romania	-1.637	-40.363

Table 7 shows the results of the convergence analysis regarding urbanization in the Balkan countries. According to the results obtained, it is seen that there is no general convergence process in the urbanization of the Balkan countries. However, the countries in club 1 and club 2 have conditional convergence, while Montenegro and Romania do not participate in any convergent club.

Table 8. Panel Causality Test Results

Causality Relationships	***Z HNC*** ***N, T***	***Z HNC*** ***N***
$\boldsymbol{ln(arrivals) \not\Rightarrow ln(co2)}$	5.635^{***}	6.864^{***}
$\boldsymbol{ln(co2) \not\Rightarrow ln(arrivals)}$	0.528	0.845
$\boldsymbol{ln(electricity) \not\Rightarrow ln(co2)}$	5.133^{***}	6.272^{***}

$ln(co2) \not\Rightarrow ln(electricity)$	4.883***	5.979***
$ln(gdp) \not\Rightarrow ln(co2)$	6.189***	7.518***
$ln(co2) \not\Rightarrow ln(gdp)$	0.703	1.049
$ln(urban) \not\Rightarrow ln(co2)$	7.864***	9.492***
$ln(co2) \not\Rightarrow ln(urban)$	35.311***	41.839***
$ln(electricity) \not\Rightarrow ln(arrivals)$	1.345	1.808
$ln(arrivals) \not\Rightarrow ln(electricity)$	2.057**	2.647***
$ln(gdp) \not\Rightarrow ln(arrivals)$	8.309***	10.015***
$ln(arrivals) \not\Rightarrow ln(gdp)$	0.161	0.413
$ln(urban) \not\Rightarrow ln(arrivals)$	6.737***	8.163***
$ln(arrivals) \not\Rightarrow ln(urban)$	12.779***	15.284***
$ln(gdp) \not\Rightarrow ln(electricity)$	2.903***	3.645***
$ln(electricity) \not\Rightarrow ln(gdp)$	4.931***	6.034***
$ln(urban) \not\Rightarrow ln(electricity)$	4.083***	5.035***
$ln(electricity) \not\Rightarrow ln(urban)$	42.113***	49.855***
$ln(urban) \not\Rightarrow ln(gdp)$	3.433***	4.269***
$ln(gdp) \not\Rightarrow ln(urban)$	65.436***	77.342***

Note: ***, ** and * refer to significance at 1%, 5% and 10% levels respectively.

Table 8 demonstrates the results of the Dumitrescu & Hurlin (2012) panel causality test, which reveals the causality relationships among the variables. According to the panel causality test results, it is seen that there is a bidirectional causality relationship between urbanization rate and carbon emissions, number of tourists, GDP, electricity consumption. In addition, it is determined that there is a bidirectional causality relationship between electricity consumption and carbon emissions, GDP. Moreover, it is observed that there is a unidirectional causality relationship from the tourist arrivals to carbon emissions and electricity consumption. Furthermore, it is confirmed that there is a unidirectional causality relationship from gross domestic product to the tourist arrivals and carbon emissions.

5. Conclusion

Nowadays, it is seen that the deepening of the globalization process and the economic and cultural relations between countries are rapidly increasing. Both commercial and cultural relations have accelerated the circulation of individuals between countries and triggered the development of tourism. Another situation that has accelerated with globalization has been global warming and climate change. It is observed that the carbon emission levels of the countries are also increasing rapidly with the rapid industrialization and increase in commercial activities of the countries. In this context, it is carried out the convergence analyses and causality analyses in line with the data on carbon emissions, economic growth, tourist arrivals, energy consumption and urbanization levels of the Balkan countries between 1995 and 2021.

Firstly, the stationarity of the variables is tested using panel unit root tests developed by Im et al. (2003) and Levin et al. (2002) within the scope of the study. As a result of panel unit root analysis, it is determined that the variables are stationary. In this regard, it is revealed that it can be applied the convergence analysis put forward by Philips & Sul (2007) and the panel causality analysis developed by Dumitrescu & Hurlin (2012).

According to the convergence analysis results, it is determined that there is no convergence process in the Balkan countries in general. Besides, it is observed that countries form various clubs among themselves. In the Balkan countries, it is found that Bosnia-Herzegovina, Bulgaria, Romania and Serbia, and Albania and North Macedonia have a conditional convergence process as two separate clubs in terms of carbon emissions. As a result of the GDP convergence analysis, it is observed that there is a divergence process among the Balkan countries. Examining the results of the convergence analysis conducted on the tourist arrivals, it is revealed that the club formed by Croatia, Greece and Türkiye has a conditional convergence process. Evaluating the convergence analysis of electricity consumption, it is seen that Greece and Romania, Albania and North Macedonia have absolute convergence process in separate clubs, while Bosnia, Croatia and Slovenia have conditional convergence process. Finally, according to the results of the convergence analysis regarding the level of urbanization, it is determined that Albania, Bulgaria, Greece and Türkiye and Bosnia, Croatia, North Macedonia, Serbia and Slovenia are in separate clubs and there is conditional convergence between them.

According to the results of Dumitrescu & Hurlin (2012) panel causality analysis, it is determined that there is a bidirectional causality relationship between urbanization rate and carbon emissions, number of tourists, GDP and electricity consumption. In addition to this, it is revealed that there is a bidirectional causality relationship between

electricity consumption and carbon emissions and GDP. Moreover, it is found that there is a unidirectional causality relationship from the tourist arrivals to carbon emissions and electricity consumption, while there is a unidirectional causality relationship from gross domestic product to the tourist arrivals and carbon emissions.

Evaluating the analysis results, it is seen that there is no convergence process in the Balkan countries in terms of tourism and environmental policies in general. Although conditional or absolute convergence processes have been identified among various countries in the region, it is determined that common policies which protect the environment and develop tourism potential are necessary throughout the Balkan countries. After all, revealing the causality relationships between carbon emissions, electricity consumption, urbanization, economic growth and tourist arrivals, which negatively affect the environment, reveals that the development of common economic, tourism and environmental policies in the Balkan countries is inevitable.

References

Akbulaev, N. (2023). The Effect of Tourism, Foreign Direct Investment and Growth on CO2 Emissions: Panel Data Analysis. Foreign Direct Investment and Growth on CO2.

Ateljevic, A. M., & Mitrovic, G. (2024). THE IMPORTANCE OF REGIONAL POLICY OF THE EUROPEAN UNION FOR THE DEVELOPMENT OF TOURISM IN BOSNIA AND HERZEGOVINA. *Proceedings EKONBIZ*, (24).

Bartlett, W. (2009). Economic development in the European super-periphery: Evidence from the Western Balkans. *Economic annals*, *54*(181), 21-44.

Beka, A., Bilalli, A., & Gara, A. (2024). Assessing the Role of Economic, Financial, and Institutional Dynamics on CO2 Emissions: Comparative Analysis of OECD and Western Balkan Regions. *Ekonomika*, *103*(3), 6-21.

Destek, M. A., & Aydın, S. (2022). An empirical note on tourism and sustainable development nexus. Environmental Science and Pollution Research, 29(23), 34515-34527

Djordjevic, D. (2014). International agreements and region-building in the mountains of South East Europe. *Mountain Research and Development*, *34*(1), 4-12.

Du, K. (2017). Econometric Convergence Test and Club Clustering Using Stata. *The Stata Journal, 17*(4), 882-900.

Dumitrescu, E. I. & Hurlin, C. (2012). Testing for Granger Non-Causality in Heterogeneous Panels. *Economic Modelling, 29*(4), 1450-1460.

Gjika, E. X., & Tolica, E. K. (2017). Assessing ICT role to economic convergence of albania and western balkans to European union. *European Journal of Multidisciplinary Studies*, *2*(5), 50-56.

Hall, D. R. (2000). Tourism as sustainable development? The Albanian experience of 'transition'. *International Journal of Tourism Research*, *2*(1), 31-46.

Haller, A. P., & Tacu Hârșan, G. D. (2023). Longitudinal Analysis of Sustainable Tourism Potential of the Black Sea Riparian States Bulgaria, Romania and Turkey. *International Journal of Environmental Research and Public Health*, *20*(4), 2971.

Ignjatović, J., Filipović, S., & Radovanović, M. (2024). Challenges of the green transition for the recovery of the Western Balkans. *Energy, Sustainability and Society*, *14*(1), 2.

Im, K., Pesaran, M. H. & Shin, Y. (2003) Testing for Unit Roots in Heterogeneous Panels. *Journal of Econometrics, 115*, 53-74.

Knežević, M., Đokić, A., & Jovanović, S. (2017). New Forms of Tourism and New Tourism Management on the Balkans. *WWJMRD 2017*, *3*(9), 299-307.

Levin, A., Lin, C. F. & Chu, C. S. J. (2002). Unit Root Tests in Panel Data: Asymptotic and Finite-sample Properties. *Journal of Econometrics, 108*, 1-24.

Meșter, I., Simuț, R., Meșter, L., & Bâc, D. (2023). An investigation of tourism, economic growth, CO2 emissions, trade openness and energy intensity index nexus: Evidence for the European Union. Energies, 16(11), 4308.

Mitić, P., Fedajev, A., Radulescu, M., & Rehman, A. (2023). The relationship between CO2 emissions, economic growth, available energy, and employment in SEE countries. Environmental Science and Pollution Research, 30(6), 16140-16155.

Ozcan, B., & Erdogan, S. (2017). Are Turkey's tourism markets converging? Evidence from the two-step LM and

three-step RALS-LM unit root tests. *Current Issues in Tourism*, *20*(4), 425-442.

Özyurt, P. M., & Kantarcı, K. (2017). The intervening role of competitiveness on the relationship between sustainability and tourism performance: A research on European countries. *Economic Themes*, *55*(1), 89-103.

Pantović, D., Bošković, N., & Petrović, T. (2022). Measuring convergence in tourism competitiveness of natural and cultural resources: a case of the Balkans and Eastern Europe. *Ekonomický časopis (Journal of Economics)*.

Pantović, D., Kostić, M., Veljović, S., & Luković, M. (2023). Evaluation Model of Environmental Sustainable Competitive Tourism Based on Entropy. *Problemy Ekorozwoju*, *18*(2), 193-203.

Philips, P. C. & Sul, D. (2007). Transition Modeling and Econometric Convergence Tests. *Econometrica, 75*(6), 1771-1855.

Porfido, E. (2020). Tourism development in the Western Balkans: Towards a common policy. Annual Review of Territorial Governance in the Western Balkans, 2, 24-45.

Prendi, L., & Murrja, A. (2023). How Are the Balkan Countries Progressing Toward Green Economy. *Review of Economics and Finance*, *21*, 212-220.

Sanfey, P., Milatovic, J., & Kresic, A. (2016). How the Western Balkans can catch up. EBRD Working Paper No. 185, Available at SSRN: https://ssrn.com/abstract=3119685 or http://dx.doi.org/10.2139/ssrn.3119685

Selimi, N., Sadiku, L., & Sadiku, M. (2017). The impact of tourism on economic growth in the Western Balkan countries: An empirical analysis. *International Journal of Business and Economic Sciences Applied Research (IJBESAR)*, *10*(2), 19-25.

Sergi, B. S. (2001). Do the Balkans look west or simply to the EU? From a distorted economy to a prospective open economy. *SEER-South-East Europe Review for Labour and Social Affairs*, (03), 89-112.

Shang, Y., Bi, C., Wei, X., Jiang, D., Taghizadeh-Hesary, F., & Rasoulinezhad, E. (2023). Eco-tourism, climate change, and environmental policies: empirical evidence from developing economies. Humanities and Social Sciences Communications, 10(1), 1-9.

Şimdi, H. (2021). Brexit Kararının İhracat Yakınsama Modeliyle Değerlendirilmesi. *Iğdır Üniversitesi Sosyal Bilimler Dergisi, 26*, 555-569.

Spalevic, V., Škatarić, G., & Dudic, B. Promoting green and sustainable practices in Montenegro's tourism industry: policy measures for sustainable growth with the idea of addressing the risk of climate change. *NOVI SAD, APRIL 2023.*, 454.

The Balkan Forum (2022), Environmental Activism in the Western Balkans, https://thebalkanforum.org/2022/05/16/environmental-activism-in-the-western-balkans/ Access Date: 01.10.2024

Vukadinovic, N. (2023). Environmental democracy in the Western Balkans between dependent capitalism and integration into the European Union. 13 p. https://sciencespo.hal.science/hal-04124597/

Weiss, S. (2020). Pushing on a string? An evaluation of regional economic cooperation in the Western Balkans.

Zienkiewicz, T. (2021). Convergence and socio-economic development disparities in the Balkan Peninsula. *Wiadomości Statystyczne. The Polish Statistician*, *66*(12), 1-23.

Keskin, M., & Aydoğdu Bağcı, S. (2024). The Impact of Taxation on International Commerce and Exchange Rate on Imports. *Politik Ekonomik Kuram, 8*(3), 798-813.