

Cultural Tourism and Globalization

By Monika Hadaś-Dyduch*

The aim of this article is to analyze the similarities in the development of countries in the context of tourism globalization. The study identifies countries with similar development trajectories as well as those with differing dynamics. A detailed analysis was conducted based on the Tourism Globalization Index. Dynamic programming was employed as the primary research tool. This algorithmic technique enables efficient problem-solving by structuring the problem into subproblems. A key aspect of this approach is the memorization of previously computed subproblems, which significantly reduces the number of required calculations. Among the various dynamic programming methods, the Dynamic Time Warping (DTW) measure was selected for analysis. DTW is an algorithm used to assess the similarity between two time sequences that may vary in length and may be misaligned.

Keywords: cultural tourism, globalization, integration

Introduction

There are numerous definitions of globalization. Here, I will present the definition that most accurately reflects contemporary approaches to the subject.

Globalization is “a process of international integration, driven by increased exchanges of products, services, and other elements at a global level, alongside influences from cultural and social environments. This process has been shaped over the years by advancements in various fields, from ICT to transportation, which support the growing interdependence between marketing activities and other business operations such as management, logistics, and accounting. The growth and diversification of production processes for various products, such as textiles and machinery, and the development of communication channels, were decisive factors in the transformations of the 19th century. The 20th century was further influenced by advancements in ICT and transportation” (Surugiu and Surugiu 2015).

Globalization is a process characterized by a global perspective that focuses on a free global market with high levels of competitive forces and intense competition, internal integration of the world economy, alliances of organizational networks, and interdependence requiring cooperation and coordination. It involves locating foreign investments, striving to maximize added value while minimizing costs, and addressing the growing importance of sustainable development, including environmental protection (e.g., resource and energy conservation, pollution prevention, and recycling). This process is also marked by the development of a knowledge economy aimed at fulfilling the needs and requirements of both global and local

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customers, shaping research, development, and the transfer of knowledge and technologies, especially advanced ones, and an increasing level of education. An information civilization based on knowledge and its diffusion, the formation of a global economic order, and the activities of transnational corporations also play significant roles. Additionally, it involves the standardization of resource-efficient and labor-saving products and services, the internationalization of enterprises and their connections, and the increase in international trade turnover, including the improvement of global logistics processes (Tubielkiewicz 2015).

Cultural globalization is the process through which cultures around the world are becoming increasingly integrated and mutually influential as a result of global flows of information, technology, media, migration, and trade. This process leads to the convergence of various cultural aspects—such as norms, values, customs, traditions, languages, and lifestyles—resulting in greater cultural homogeneity at the global level.

However, cultural globalization can also lead to conflicts when local cultures feel threatened by dominant global patterns, often originating from Western countries. An example of this is the spread of Western lifestyles, media, fashion, or food, which can influence traditional cultures in other parts of the world. Thus, cultural globalization is a complex process that, on one hand, promotes diversity through access to a variety of cultures, while on the other hand, it can lead to cultural homogenization, where local cultures are displaced by dominant global patterns.

The aim of this article is to analyze cultural globalization in Europe. It examines which countries are developing in similar directions and identifies, through appropriate analyses, countries whose policies differ.

Nonlinear programming was employed as the research method.

Literature Review

Cultural tourism and globalization are dynamic fields that intersect with various disciplines, including anthropology, sociology, economics, and heritage studies. The literature in this area provides valuable insights into the complex relationships between global forces and local cultural practices, highlighting both the opportunities and challenges of cultural tourism in a globalized world. Through a deeper understanding of these interactions, stakeholders can develop more sustainable and respectful approaches to cultural tourism that benefit both tourists and host communities.

There are many interesting approaches to cultural tourism in the literature. Urry and Larsen (2011) have shown how tourism shapes perceptions of places and cultures, emphasizing the role of visual consumption in the tourism experience. In a collection of essays, Lyon and Wells (2012) examine the intersections of global tourism, cultural heritage, and economic development. The book by McKercher and Du Cros (2002) offers a comprehensive overview of cultural tourism, focusing on sustainable management practices and partnerships. Haldrup and Larsen (2006) describe how the search for authenticity shapes cultural tourism experiences and

its consequences for local cultures. The social and cultural dimensions of tourism in the context of globalization are detailed by Macleod (2004), who focuses on the impact of tourism and globalization on island communities, highlighting issues of cultural change and identity.

Materials

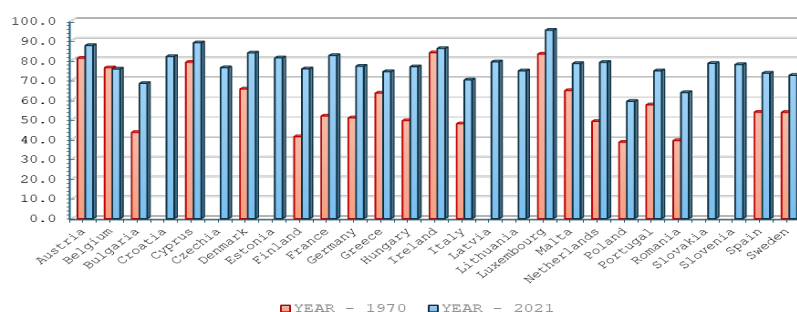
The research presented in this article is based on the globalization index constructed by Axel Dreher. The KOF Globalisation Index “is calculated on a yearly basis from 1970. However, not all data are available for all countries and all years. Missing values within a series are imputed using linear interpolation. Missing values at the beginning or end of a series are substituted with the closest available observation. Specifically, this implies that we carry the last value backward in the case of missing data at the beginning of a series and forward in the case of missing data at the end of a series” (Dreher 2006).

The research focused on one specific type of globalization, namely tourism globalization. This is an index composed of five indicators: Trade in cultural goods (27.2%), Trade in personal services (24.5%), International trademarks (3.0%), McDonald's restaurants (24.4%), and IKEA stores (20.9%).

The study utilized data from the period 1970 to 2021 (the index is calculated every two years, with the latest index from 2023 based on data from 2021). The following countries were included in the study: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden (see: Hadaś-Dyduch 2015, 2018, 2022).

The development of tourism in the analyzed countries during the study period was characterized by varying dynamics and different paces of growth. The two maps below show data on the tourism globalization index in 1970 and 2021 (the latest data available). The data (Figure 1) indicate that, in all countries except Belgium, there was an increase in the tourism globalization index between 1970 and 2021. The largest increases were observed in Finland (by 34.2) and France (by 30.5).

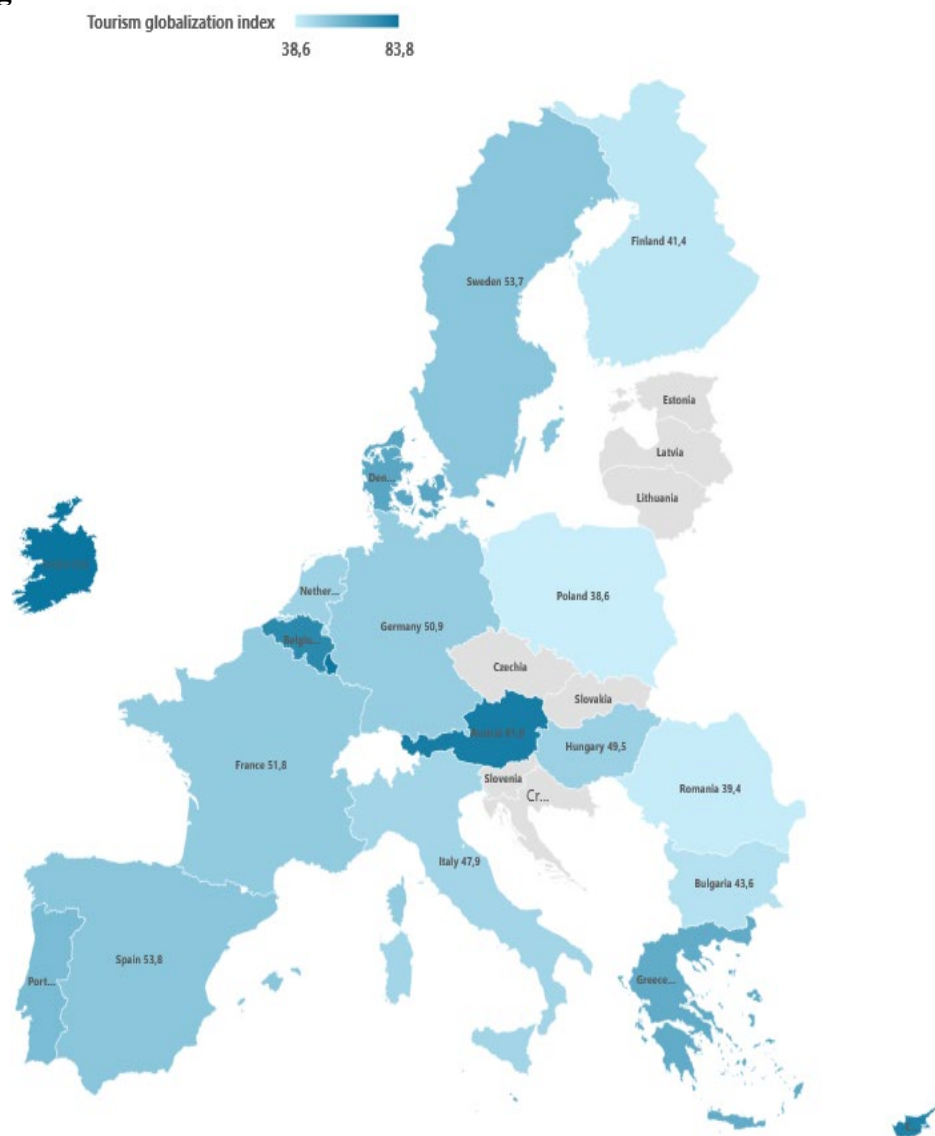
Figure 1. *Tourism Globalization Index in 1970 and 2021*



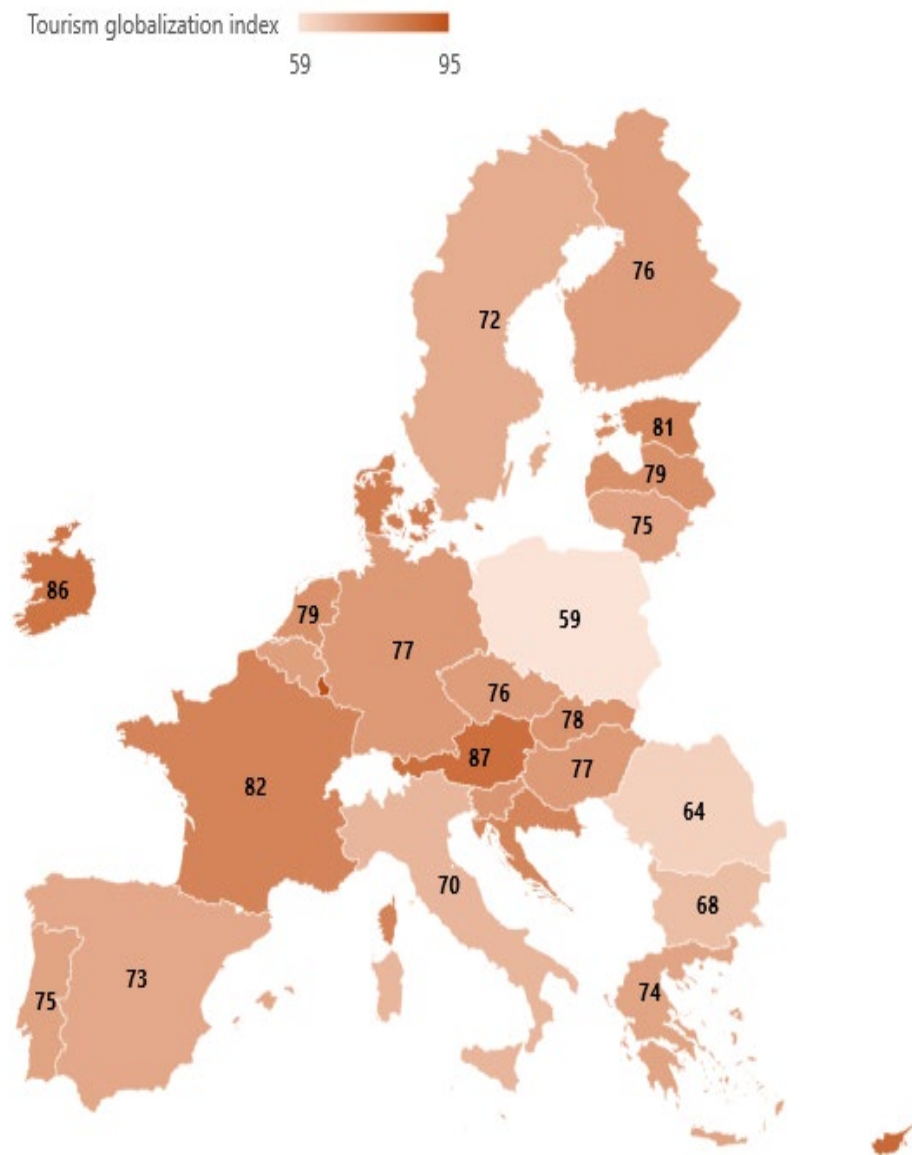
Source: Own study based on data from a Swiss bank.

As shown on the maps (Figures 2 and 3), Ireland had the highest tourism globalization index in 1970, while Poland had the lowest. In 2021, Luxembourg recorded the highest index at 95, while Poland remained the lowest with an index of 59. In 2021, Greece ranked 21st in the tourism globalization development index with a score of 74, whereas in 1970, it held the 8th position with an index of 63.4.

Figure 2. *Tourism Globalization Index in 1970*

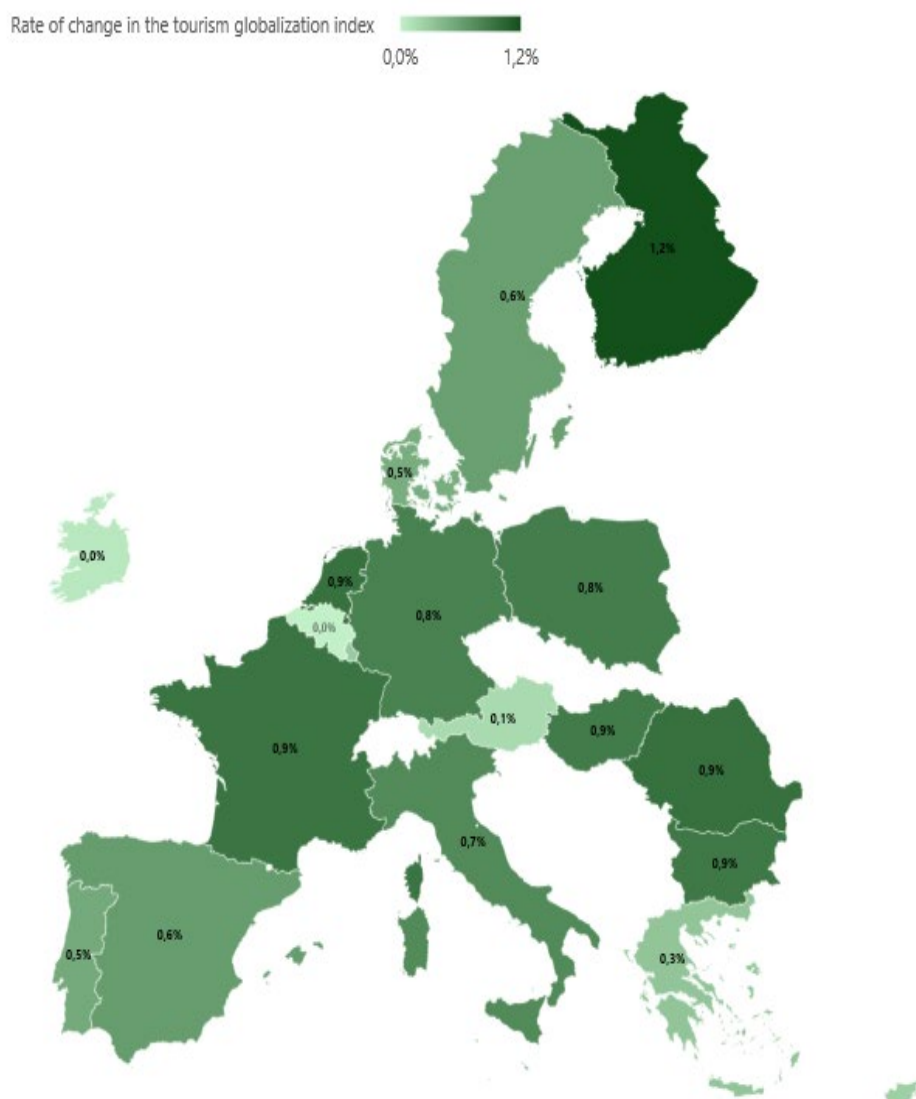


Source: Own study based on data from a Swiss bank.

Figure 3. *Tourism Globalization Index in 2021*

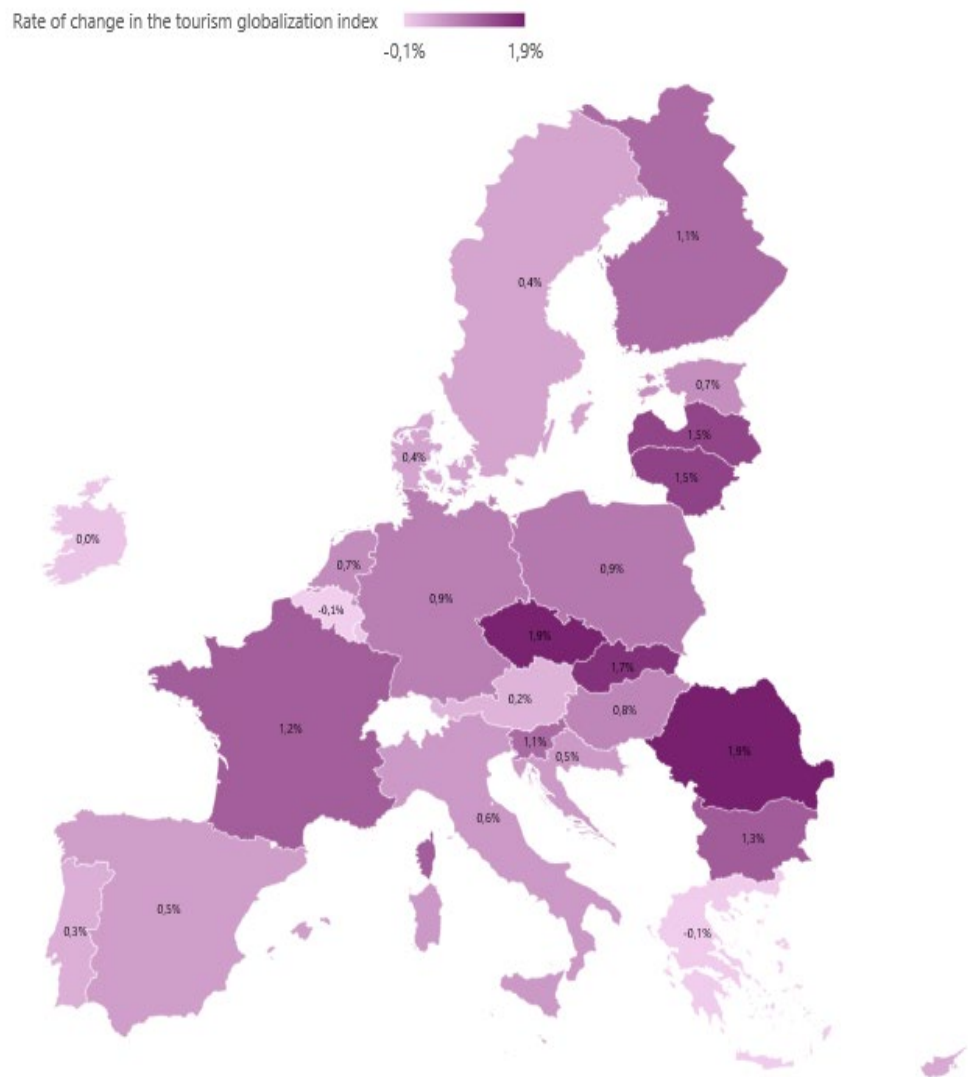
Source: Own study based on data from a Swiss bank.

The rate of change in the analyzed tourism globalization index between 1970 and 2021 ranged from 0% to 1.2% annually. The greatest development was observed in Finland, where the index increased by an average of 1.2% per year during this period. Other countries that experienced significant growth include Hungary, Bulgaria, France, the Netherlands, and Romania, each with an average annual increase of 0.9% (see the map – Figure 3).

Figure 4. Rate of Change in the Tourism Globalization Index (Period 1970-2021)

Source: Own study based on data from a Swiss bank.

The rate of change in the analyzed index between 1993 and 2021 ranged from -0.1% to 1.9% annually. The greatest development was observed in Romania and the Czech Republic, where the index increased by an average of 1.9% per year. In contrast, Belgium experienced the smallest change, with the index decreasing by an average of 0.1% per year. Details are shown on the map below (Figure 5).

Figure 5. Rate of Change in the Tourism Globalization Index (Period 1993-2021)

Source: Own study based on data from a Swiss bank.

Methodology and Methods

The aim of the research described in this article is to analyze countries based on their similarities in tourism development. Dynamic programming and its related metrics were chosen as the analytical tools. Dynamic programming is an algorithmic problem-solving technique that involves breaking a problem into smaller, overlapping subproblems, solving each one once, and storing their results to avoid redundant calculations.

The advantages of dynamic programming, which are significant for the research conducted, are as follows

- Each large problem is divided into smaller sub-problems that are solved individually.

- The solution to the larger problem is built on the solutions to smaller sub-problems.
- The results of subproblems are remembered to avoid solving them multiple times (top-down approach).
- Using the table to iteratively build solutions to sub-problems until the main problem is solved (bottom-up approach).

From the many available dynamic programming options, the DTW measure was selected for analysis. Dynamic Time Warping (DTW) is an algorithm used to measure the similarity between two time series that may differ in length and may be out of sync.

The principle of DTW is straightforward. It compares two sequences by time stretching and compression to find the optimal alignment between their time points. The sequences can be of different lengths and do not need to be equal. The algorithm constructs a cost matrix where each cell represents the cost of matching a point from one sequence to a point from the other sequence. DTW then identifies the minimum cost path from the upper left corner to the lower right corner of this matrix.

Using the DTW measure, the article analyzes which countries are most similar to each other in terms of the development of the tourism globalization index. It also examines the similarity of countries with respect to the dynamics of cultural globalization.

Results

The analysis covered 27 countries and focused on identifying which countries are most and least similar in terms of the development of global tourism, particularly with respect to Belgium and Greece, which have experienced a declining rate of growth in the tourism globalization index. A standardized DTW measure, ranging from 0 to 1, was used for the analysis, with lower values indicating higher degrees of similarity.

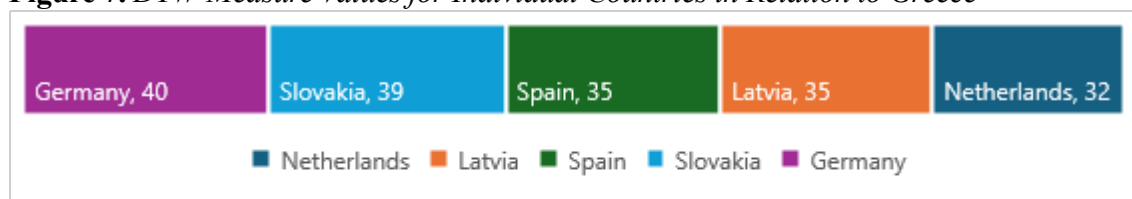
Greece's global tourism development is most similar to that of Malta. This observation is not related to Polish politics. By analyzing the similarity of the global tourism index in Greece relative to other countries, several distinct groups can be identified:

- 1) The first group consists of countries with a standardized measure of 0.1 or less. This group includes Greece, Malta, Estonia, Portugal, Slovenia, Sweden, Croatia, and Denmark (see Figure 6).

Figure 6. *DTW Measure Values for Individual Countries in Relation to Greece*

Source: Own calculation.

- 2) The second group consists of countries with a standardized measure greater than or equal to 0.2 and less than 0.3. This group includes the Netherlands, Latvia, Spain, Slovakia, and Germany (see Figure 7).

Figure 7. *DTW Measure Values for Individual Countries in Relation to Greece*

Source: Own calculation.

- 3) The third group consists of countries with a standardized measure ranging from 0.2 to 0.3. This group includes the Czech Republic, Belgium, Lithuania, Italy, and France (see Figure 8).

Figure 8. *DTW Measure Values for Individual Countries in Relation to Greece*

Source: Own calculation.

- 4) The fourth group consists of countries with a standardized measure ranging from 0.3 to 0.4. This group includes Hungary and Cyprus.
- 5) The fifth group consists of countries with a standardized measure ranging from 0.4 to 0.5. This group includes Austria and Finland (see Figure 9).

Figure 9. *DTW Measure Values for Individual Countries in Relation to Greece*

Source: Own calculation.

- 6) The sixth group includes countries with a standardized measure ranging from 0.5 to 0.6. This group includes Ireland and Bulgaria.
- 7) The seventh group includes countries with a standardized measure ranging from 0.7 to 1. This group includes Luxembourg (um = 0.7), Romania (um = 0.9), and Poland (um = 1) (see Figures 10 and 11).

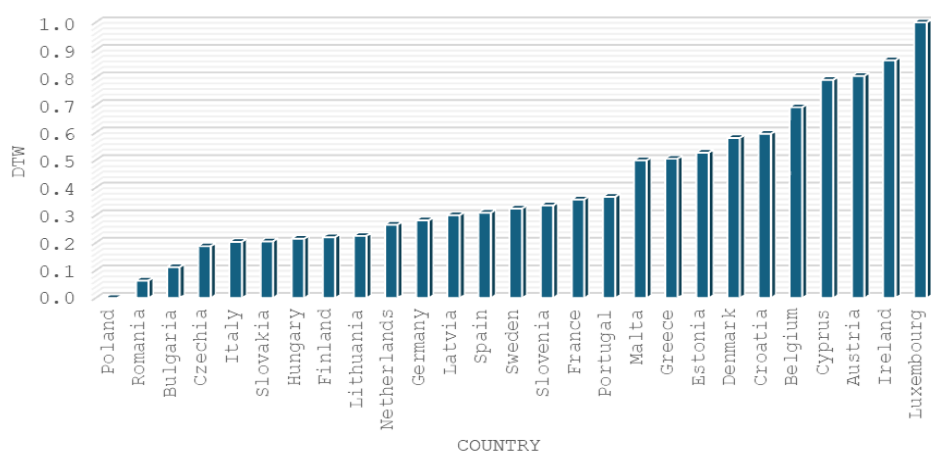
Figure 10. *DTW Measure Values for Individual Countries in Relation to Greece*



Source: Own calculation.

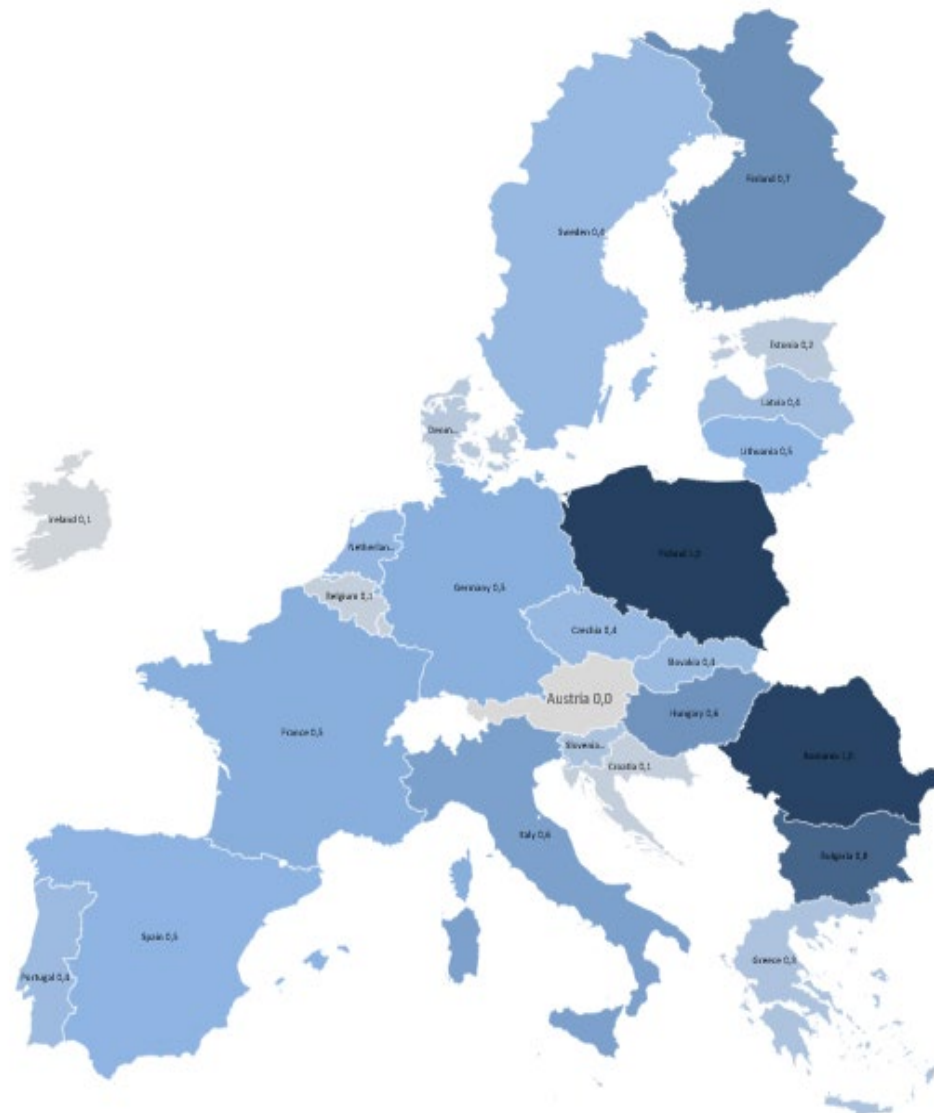
The development of tourism globalization in Poland is most similar to that in Romania. The country most distant from Poland in terms of tourism policy is Luxembourg.

Figure 11. *Values of the Standardized DTW Measure for Individual Countries in Relation to Poland*



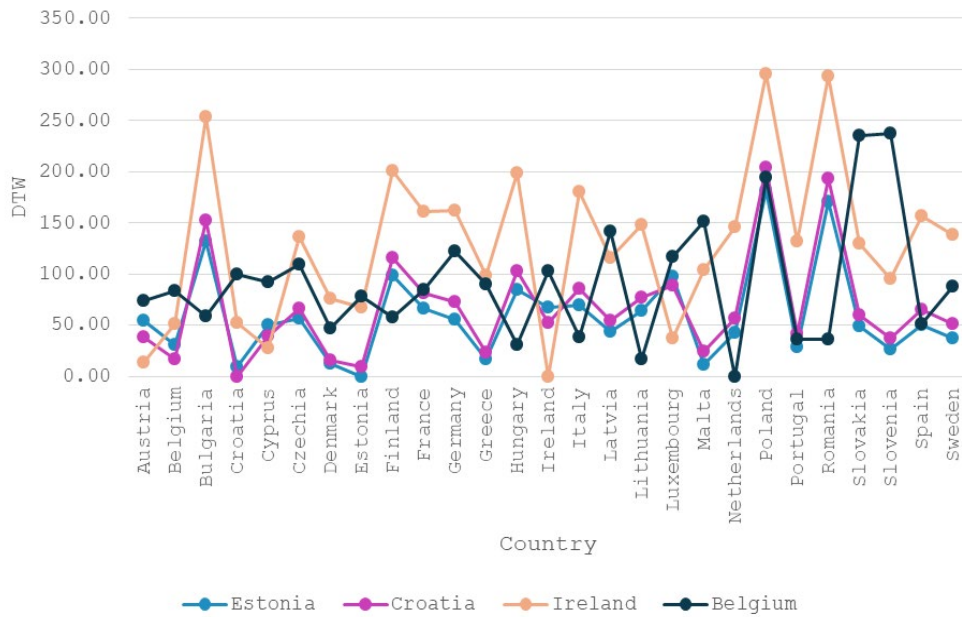
Source: Own calculation.

In Austria, the development of the tourism globalization index is most similar to that in Ireland, Cyprus, Belgium, Croatia, and Luxembourg. Conversely, the countries least similar in their development are Romania and Poland (see Figure 12).

Figure 12. DTW Measure Values for Individual Countries in Relation to Austria

Source: Own calculation.

In Belgium, the development of the tourism globalization index is most similar to that in Ireland. Conversely, the countries least similar in their development are Romania and Poland (see Figure 13).

Figure 13. DTW Measure Values for Selected Countries

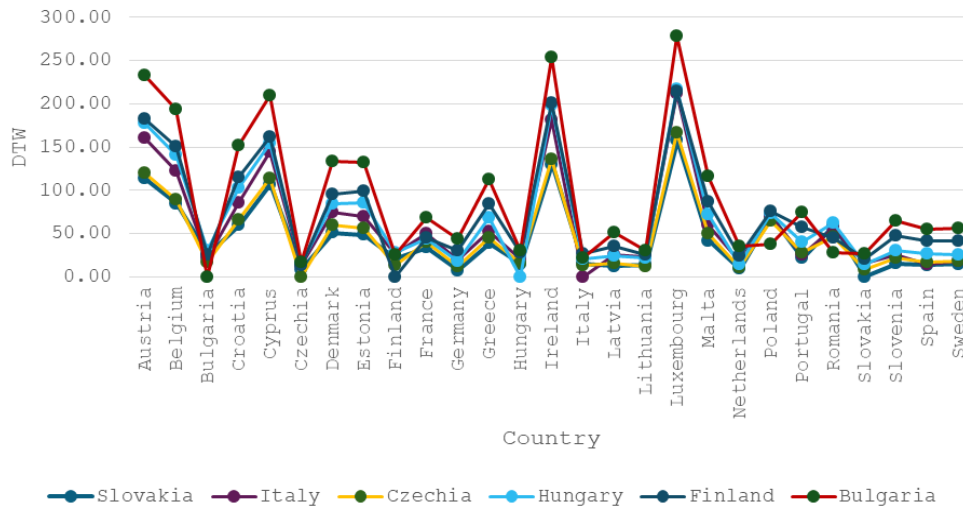
Source: Own calculation.

Analyzing the similarity of the global tourism index in Belgium relative to other countries, several groups can be distinguished:

1. **The first group** includes countries with a standardized measure of 0.1 or less. This group includes Croatia (DTW = 16.9) and Estonia (DTW = 30.73).
2. **The second group** consists of countries with a standardized measure greater than 0.1 and up to 0.2. This group includes Cyprus (DTW = 35.75), Austria (DTW = 36.75), Denmark (DTW = 38.18), Greece (DTW = 46.71), Ireland (DTW = 51.51), Malta (DTW = 52.25), and Slovenia (DTW = 58.65).
3. **The third group** includes countries with a standardized measure around 0.3. This group includes Portugal (DTW = 73.92) and Latvia (DTW = 77.89).
4. **The fourth group** consists of countries with a standardized measure around 0.4. This group includes Sweden (DTW = 83.69), Slovakia (DTW = 84.71), Luxembourg (DTW = 87.40), Czechia (DTW = 89.80), Netherlands (DTW = 91.70), Spain (DTW = 99.60), and Lithuania (DTW = 103.44).
5. **The fifth group** includes countries with a standardized measure around 0.5. This group includes Germany (DTW = 109.15), France (DTW = 116.68), and Italy (DTW = 122.25).
6. **The sixth group** consists of countries with a standardized measure around 0.6. This group includes Hungary (DTW = 141.34) and Finland (DTW = 150.95).
7. **The seventh group** includes countries with a standardized measure between 0.6 and 1. This group includes Bulgaria (DTW = 193.99), Romania (DTW = 235.50), and Poland (DTW = 237.54).

In Bulgaria, the development of the tourism globalization index most closely corresponded to that in countries such as the Czech Republic, Italy, Finland, Slovakia, Romania, Hungary, and Lithuania. It did not align with the policies implemented in countries such as Greece, Malta, Estonia, Denmark, Croatia, Belgium, Cyprus, Austria, Ireland, and Luxembourg (see Figure 14).

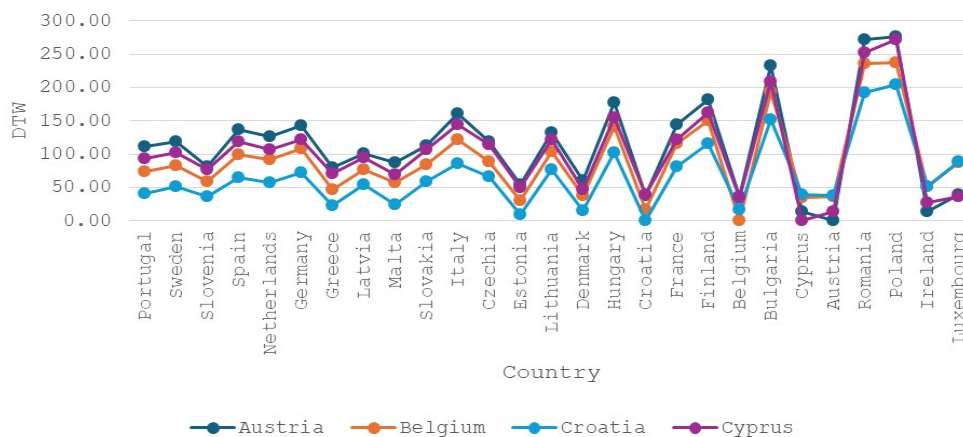
Figure 14. *DTW Measure Values for Selected Countries*



Source: Own calculation.

In Croatia, the tourism globalization index was similar to that in Estonia, Denmark, Belgium, Greece, Malta, Slovenia, and Austria. It differed significantly from the development trends observed in Hungary, Finland, Bulgaria, Romania, and Poland (see Figure 15).

Figure 15. *DTW Measure Values for Selected Countries*

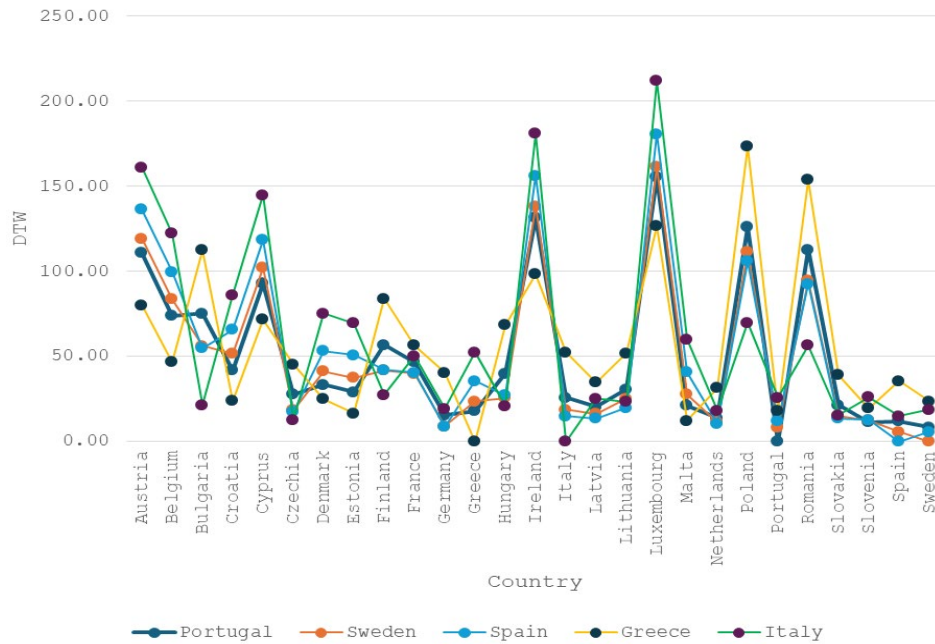


Source: Own calculation.

In Portugal, the tourism globalization index was similar to that in many European countries, with the closest similarities to Sweden and Slovenia. It differed significantly

from the development trends observed in Austria, Romania, Poland, Ireland, and Luxembourg (see Figure 16).

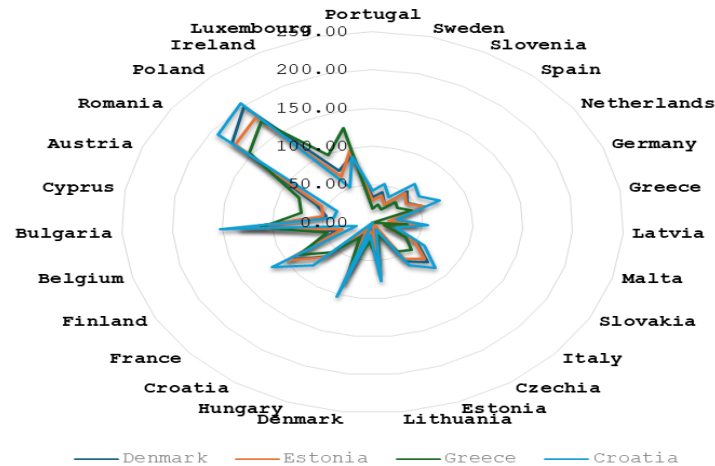
Figure 16. *DTW Measure Values for Selected Countries*



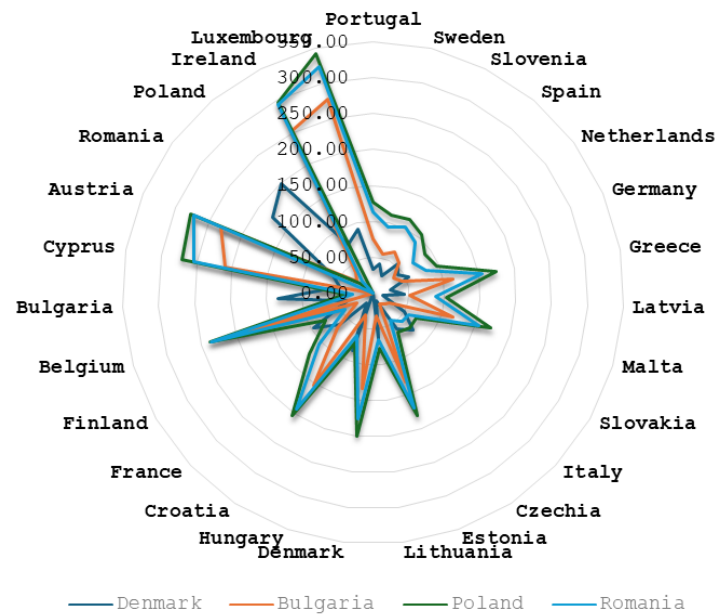
Source: Own calculation.

In Denmark, the tourism globalization index was most similar to that in Estonia, Malta, Croatia, and Greece. It differed significantly from the development trends observed in Poland, Romania, and Bulgaria (see Figures 17 and 18).

Figure 17. *DTW Measure Values for Selected Countries*



Source: Own calculation.

Figure 18. *DTW Measure Values for Selected Countries*

Source: Own calculation.

Conclusion

The Tourism Globalization Index is a valuable tool for analyzing and comparing the degree of tourism globalization across different countries and regions. However, like any indicator, it has its limitations that should be considered when interpreting its results. It is essential to understand both the advantages and disadvantages of the index to use it effectively in practice.

Advantages of the Tourism Globalization Index include:

- **Assessment of Global Market Integration:** Evaluates how well a country or region is integrated into the global tourism market.
- **Impact on the Economy:** Provides insight into the economic impact of tourism.
- **Monitoring Global Trends:** Helps track and understand global trends in tourism.
- **Promotion of Regions and Countries:** Assists in promoting regions and countries by highlighting their tourism globalization status.

While there is no single, universal index for tourism globalization, several indicators can be used to assess various aspects of this phenomenon. Each of these indices offers unique insights into different facets of tourism globalization, enabling a comprehensive analysis of the sector. Key indices include: Travel and Tourism Competitiveness Index (TTCI), Global Destination Sustainability Index (GDS-Index), Globalization Index for Tourism (GIT), International Tourist Arrivals Index, World Tourism Organization (UNWTO) Tourism Barometer.

Acknowledgments

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