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Tourist Destination Competitiveness Model of ex-Yugoslavia countries.

Validity in extraordinary circumstances?

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Abstract

The Main purpose of the paper was to test the robustness of destination competitiveness model in extreme circumstances, in this case the global pandemic covid-19. Tourism-related data was gathered for the six countries of former Yugoslavia as their collective history and other geo-economic factors were assumed to minimize the differences between the countries. Series of statistical analysis were used to examine the relationship between the Competitiveness Score, calculated by combining the Competitive Destination Model (Ritchie & Crouch, 2003) and Travel and Tourism Competitiveness Report (Crotti et al., 2015; Crotti & Misrahi, 2017; Calderwood & Soshkin, 2019), and the percentage change in the international tourist arrivals, international tourism receipts and the number of nights stayed in 2020. A simple linear regression led to the finding of a significant positive relationship between the Competitiveness Score and the percentage change in the number of arrivals. No significant relationship was found for the other two variables. This paper represents a foundation in the examination of the predictive features of the Destination Competitiveness Model in the extraordinary circumstances, such as the global pandemic.

Keywords: destination competitiveness; coronavirus; tourism activity; travel and tourism competitiveness index; the “competitive destination” model; Former Yugoslavia

Tourist Destination Competitiveness Model of ex-Yugoslavia countries. Validity in extraordinary circumstances?

The Travel and Tourism industry undeniably presents a significant portion of global GDP. According to the World Travel and Tourism Council's Global Economics Impact & Trends report (2021), the aforementioned sector accounted for 10.4% of the global Gross Domestic Product in 2019. Around 334 million jobs, which accounts for 10.6% of all the existing jobs, were sustained by the travel and tourism sector. Furthermore, the travel and tourism industry generated 27.4% of global service exports.

There are many aspects of the travel and tourism industry which stand as proof of how diverse it is in comparison to the other global industries. According to Neufeld (2020), many world economies remain reliant on their tourism sector. Based on the data provided in the article, 44 world economies have 15% or more of their workforce tied to the travel and tourism industry. This consequently leaves them vulnerable to any type of disruption that could potentially have a negative impact on the visitors' willingness to travel. Therefore, this research attempts to verify the robustness of the destination competitiveness models in the extreme situations. By understanding if the competitiveness model remains valid in these circumstances, countries would be able to utilize them and possibly minimize the negative effects of extraordinary situations.

Nevertheless, the benefits of the travel and tourism industry are not bound by its direct impact to the indicators such as Gross Domestic Product or overall employment. Following the tourism exports, government individual spending, business and leisure travel and tourism spending, which are all part of the direct contributions, substantial indirect and induced contributions (Jus & Misrahi, 2021) cannot be neglected. According to Jus (2021), capital investment, government collective spending and supply-chain effects have to be included as the

indirect contributions of the travel and tourism industry to the country's economy. Likewise, the spending of individuals who are either directly or indirectly connected to the travel and tourism sectors can be categorized as the induced contributions to the GDP and overall employment. This just goes to show that the travel and tourism industry represents an integral part of many economies (Jus & Misrahi, 2021; Neufeld, 2020) and that is why the Jus and Misrahi (2021) attempt to implement all the aforementioned contributions to the overall statistics.

The appearance of coronavirus in the beginning of 2020 halted the global economy as everyone started isolating themselves, whether by choice or encouraged by the local authorities. As a consequence of all the implemented restrictions, the travel and tourism industry had suffered major losses, which resulted in a 49.1% decrease in the travel and tourism GDP, consequently squeezing the Travel and Tourism industry to only 5.5% of global Gross Domestic Product (Jus & Misrahi, 2021). After ten consecutive years of positive percentage growth which was greater than the overall economy growth, the Travel and Tourism sector had a greater decrease than the overall global economy, the respective decreases were 49.1% and 3.7%. Another catastrophic consequence of the coronavirus was the loss of 62 million jobs in the span of one calendar year which seriously impacted the global labor market (Jus & Misrahi, 2021).

Destination Competitiveness Models

With a purpose of better understanding of the anatomy and attractiveness of the world's destinations, many models have been introduced. Literature suggests that many efforts were made in order to examine and get a better understanding of the concept of "destination competitiveness" (Evans et al., 1995; Hassan, 2000; Ritchie and Crouch, 2003). In this paper, the focus will be directed towards the Competitive Destination Model, developed by Ritchie and Crouch in 1999,

and the Travel and Tourism Competitiveness Report issued by the World Economic Forum every 2 years. The later has even developed the Travel and Tourism Competitiveness index to represent the competitiveness of a country on a numerical scale between 1 and 7.

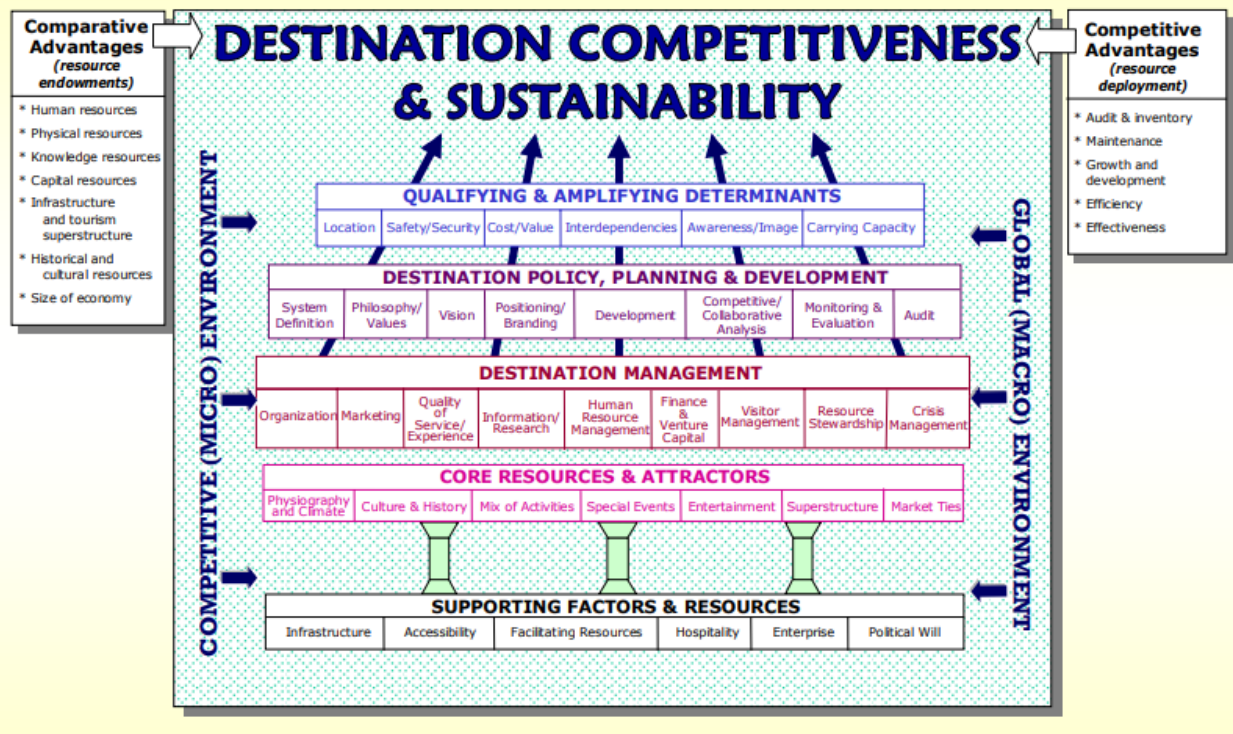
The Competitive Destination Model, as a non-predictive model, seems to be suitable for general situations where the tourism industry is functioning as usual. However, its robustness may be questioned as it has not been confirmed if the model holds up during the extraordinary events. The events, such as coronavirus, which have the capacity of shaking up the overall global economy, will inevitably influence the processes within the Travel and Tourism industry. Therefore, the validity of the Competitive Destination Model in the events as such becomes questionable.

The other issue with the Competitive Destination Model is the complexity of assigning the numerical value to the individual attributes and therefore the determinance of the final destination competitiveness score. On the other hand, Travel and Tourism Competitiveness Report assigns a score between 1 and 7 for all of its pillars and consequently calculates the Travel and Tourism Competitiveness Index which represents a country's competitiveness score.

The Competitive Destination Model

The competitive destination Model, developed by Ritchie and Crouch (1999), and later refined (2003) has been used as a strategic framework for getting a better understanding of components that are crucial for a tourist destination's competitiveness. Figure 1. provides a visual representation of the previously mentioned model.

Figure 1. Conceptual Destination Competitiveness Model



Source: Ritchie, J. R. B., & Crouch, G. I. (2003). *The Competitive Destination*.

The model (Ritchie & Crouch, 2003) incorporates 36 different variables, which are divided into 5 “pillars”, namely the Supporting Factors and Resources; the Core Resources and Attractors; Destination Management; Destination Policy, Planning and Development; Qualifying and Amplifying Determinants.

The Core Resources and Attractors, as the name may suggest, represent the initial reason why the potential visitors may choose a specific destination (Ritchie & Crouch, 2003). On the other hand, Supporting Factors and Resources are the foundation upon which the tourism offer can be developed. Destination Policy, Planning and Development should provide a strategic framework within which the destination will be able to develop a sound tourist offer. Destination Management is supposed to utilize all the aforementioned aspects of the destination in a coherent

way in order to enable optimized functioning of the tourism industry. Qualifying and amplifying determinants, which are found at the top represent the additional attributes which pose as limits of a destination competitiveness and that is why they could also be called “situational conditioners” (Ritchie & Crouch, 2003).

Nevertheless, authors see this model as a good starting point for the potential debate which ought to challenge the model and consequently help its further development. Ritchie (2003) states that the Competitive Destination Model is not predictive, but that it serves as a general framework for understanding the difference in attractiveness between the destination.

While it is safe to assume that different aspects of a tourist destination will have different impact on the travelers, the model does not include the relative importance of the variables (attributes). In endeavors to further develop the model, Crouch (2007) conducted research to determine the importance and determinance of individual attributes. By using the Analytic Hierarchy Process, the research concluded that some of the attributes are significantly more important compared to the other ones. Primarily, the research deduced the local importance weight, which represents the importance of attributes within their respective 5 main destination competitiveness factors. Specifically, the following ten have been found to have a significant above-the-average importance, while the weight of other attributes is either in line with the average or even lower than that:

- Physiography and Climate
- Mix of Activities
- Culture and History
- Tourism Superstructure

- Safety and Security
- Cost/Value
- Accessibility
- Awareness/Image
- Location
- Infrastructure

Furthermore, the attribute importance weight drawn from the research (Crouch, 2007) was used to calculate the relative determinance of the components of the Destination Competitiveness Model. According to Crouch (2007), in order for an attribute to even be considered determinant, it has to be both important and different across a set of destinations. This means that an important attribute may not always influence the traveler's decision, while the determinant factors were the ones having the greatest impact on that choice (Crouch, 2007).

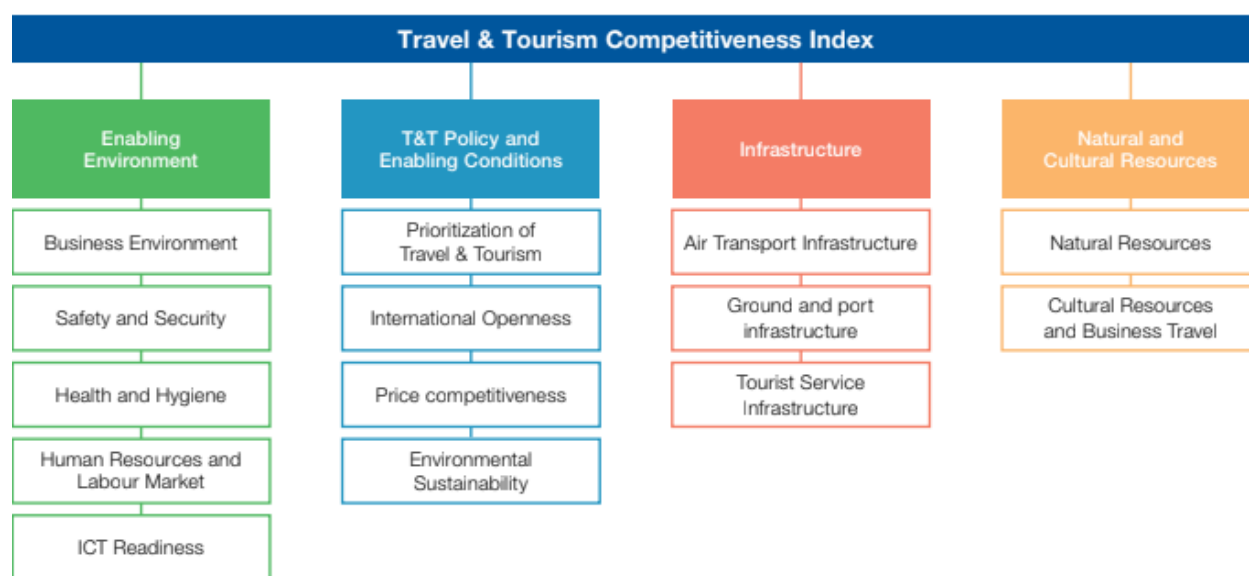
Travel and Tourism Competitiveness Report

With a goal of creating the most comprehensive report on the topic of destination competitiveness, the World Economic Forum has been issuing the "Travel and Tourism Competitiveness Report" every two years (biennially) for more than ten years. The reports gather information about up to 140 world economies and are based on the information supplied by international organizations and executive surveys (Crotti & Misrahi, 2017).

The collected data is used to calculate the TTCI, Travel and Tourism Competitiveness Index, which is the end product of the comprehensive list of 90 distinct indicators. These indicators are extracted from the data comprising the Executive Opinion Survey and hard data which refer to

all that collected outside the aforementioned survey (e.g., Country Brand Strategy Rating). The hard data was standardized to a 1 – 7 scale using the normalization formula (Calderwood & Soshkin, 2019)., for further information on the formula proceed to the Procedures section. Moreover, the indicators are divided into 14 pillars. The pillars represent the unweighted average of all the indicators that fall within the respective pillar. Moreover, the 14 pillars are categorized into 4 subindices, namely Enabling Environment, T&T Policy and Enabling Conditions, Infrastructure, Natural and Cultural Resources. Finally, the overall TTCI is calculated as the unweighted average of the previously mentioned subindices. Figure 2. presents the visual representation of the Travel and Tourism Competitiveness Index, 4 subindices and 14 pillars (Crotti & Misrahi, 2017).

Figure 2. Travel & Tourism Competitiveness Index composition



Source: *The travel and tourism competitiveness report 2017*. World Economic Forum.

The Enabling Environment subindex represents the country's general setting and the prerequisites for the business operations. Travel and tourism Policy and Enabling Conditions focus

on country's strategic behavior when it comes to the global economy. Infrastructure, as the name would suggest, includes air, ground and port infrastructure, and is also accompanied by the tourism specific infrastructure, which are all factors that have a huge influence on the accessibility of a destination. Last, but not the least, natural and cultural resources capture the "principal reasons to travel" (Calderwood & Soshkin, 2019).

Tourism in ex-Yugoslavia countries

According to the literature, Yugoslavia was initially formed in 1929 (Lampe & Allcock, 2020). The country was situated in the Southeastern Europe, the Balkan peninsula to be exact. Due to this location representing a bridge between the Western Europe and the East, Yugoslavia presented a very desirable travel destination. Based on different time frames, literature divides Yugoslavia into three forms, namely the First – a kingdom which lasted until the Second World War; the Second – Socialist Federal republic which was formed following the war and lasted until the beginning of 1990s; and the Third – where the only countries left comprising Yugoslavia were Serbia and Montenegro. This country later dissolved in the 2006, when Montenegro gained its independence.

Even though many events influenced its size, at the time when the countries integrated in the Socialist Federal Republic of Yugoslavia were today's Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia, and Slovenia, the greatest territory that was covered added up to 255,804 square kilometers. Furthermore, by the 1991, Yugoslavia's population reached 24 million (Lampe & Allcock, 2020).

According to Sallnow (1985), the importance and size of the tourism industry in Yugoslavia was very significant, and therefore couldn't be neglected. The constant human

circulation throughout the country was a prerequisite for the inflow of international investments which were a significant factor in the overall development of the infrastructure. An event that is a proof of the previously mentioned statement was Sarajevo, Bosnia and Herzegovina, hosting the Winter Olympic games in 1984. Even though the international tourism was heavily promoted, the domestic one always had a bigger share of the trade. Nevertheless, the Yugoslavian tourism industry totaled somewhere between 10% – 15% of the country's foreign exchange receipts. The source markets in the 1980s, although very diverse, had a prevalence of German, Italian and Austrian tourists.

The birth of tourism, especially along the Dalmatian coast, was accelerated mostly because of the inauguration of the Adriatic magistral (“Jadranska magistrala”), a coastal highway, which was used to connect Western Europe and famous tourist destinations on the East, such as Turkey and Greece (Sallnow, 1985). By introducing this type of infrastructure, the Dalmatian coast, including the Montenegrin coast, became a resting point for the travelers passing through. Yugoslavia took advantage of the passing travelers and visible development along the Adriatic coast stands a proof of that. Furthermore, the dynamic terrain which was very diverse across Yugoslavia equipped the country with a vast list of opportunities for the tourist offer. Its proximity to the Mediterranean Sea and steep mountains which were found in less than 100 kilometers away, enabled a year-round tourist circulation (Sallnow, 1985).

Ex-Yugoslavia countries Today

The independent neighboring countries which were once a part of the federal country Yugoslavia are Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia and Slovenia. All the countries are situated on the Balkan peninsula and four of them, namely Bosnia

and Herzegovina, Croatia, Montenegro, and Slovenia have their own portion of the Adriatic coast. The longest part of the coastline, 1800 kilometers, belongs to Croatia (Bracewell et al., 2022).

Based on the territorial size, the biggest country is Serbia which covers 77,589 square kilometers (Lampe et al., 2020), while the smallest one is Montenegro with an area of 13,888 square kilometers (Poulsen et al., 2022). Croatia and Slovenia are the only countries from this group which are a part of the European Union (Rosenberg, 2020). Slovenia has been a member since 2004, while Croatia joined in 2013. However, Montenegro, Serbia and North Macedonia are all in the transition process of entering the European Union (Rosenberg, 2020).

Research Question

This research tested if the conceptual destination competitiveness model developed by Ritchie and Crouch (2003), in combination with the Travel and Tourism Competitiveness Index, remains valid in the extraordinary circumstances, such as the coronavirus. Consequently, this research should attest to the robustness of the competitiveness model under the extreme conditions.

Assumption: Countries with a higher competitiveness score should have a milder impact of coronavirus on their tourism activity.

- Ho: The model holds up in unique circumstances, such as coronavirus.
- Ha: The model doesn't hold up in unique circumstances, such as coronavirus.

In this paper, the variables chosen to represent the tourism-activity of a country were international tourist arrivals, international tourism receipts and the number of nights stayed. Therefore, the following 3 sub-hypotheses were formed.

Sub-hypothesis 1:

- Ho: There is a significant positive linear relationship between the calculated 2019 competitiveness score and the percentage change in the number of international tourist arrivals in 2020.
- Ha: There is no significant linear relationship between the calculated 2019 competitiveness score and the percentage change in the number of international tourist arrivals in 2020.

Sub-hypothesis 2:

- Ho: There is a significant positive linear relationship between the calculated 2019 competitiveness score and the percentage change in the amount of international tourism receipts in 2020.
- Ha: There is no significant linear relationship between the calculated 2019 competitiveness score and the percentage change in the amount of international tourism receipts in 2020.

Sub-hypothesis 3:

- Ho: There is a significant positive linear relationship between the calculated 2019 competitiveness score and the percentage change in the number of nights stayed in 2020.
- Ha: There is no significant linear relationship between the calculated 2019 competitiveness score and the percentage change in the number of nights stayed in 2020.

Method

Purpose

The purpose of the research was twofold. Firstly, the aim was to quantify the Competitive Destination Model (Ritchie & Crouch, 2003) with a goal of having a comparable metric of competitiveness for a set of countries. Second one was to attest to its robustness in times of extraordinary circumstances. Statistical analysis was used to confirm if the countries with a higher competitiveness score have a tourism industry which is more resilient to extraordinary events, such as coronavirus. With a goal of setting the context, a descriptive analysis of the pre-covid tourism industry of the sample countries was provided in the Results section.

Data Source

For the data gathering, several different sources were used. On behalf of the Country Competitiveness Score calculation, indicator values were extracted from the Travel and Tourism Competitiveness Reports (2015, 2017, 2019). Due to the limited availability of data from the sample countries' official statistical websites (Agency for Statistics of Bosnia and Herzegovina, Croatian Bureau of Statistics, Republic of North Macedonia State Statistical Office, Statistical Office of Montenegro, Statistical Office of Republic of Serbia, Statistical Office of Slovenia), only the "number of nights stayed" data was gathered from the aforementioned. The data gathered included the annual number of nights stayed for a 10-year period, from 2011 to 2020, which was the most recent year during the collection time. On the other hand, the 3 remaining variables (number of international arrivals, international tourism receipts, and Gross Domestic Product) were found in the World Bank Database (2021). Similar to the previous data source, the data were presented on an annual basis, but the timeline available was much more extensive, therefore the data gathered included everything between the years 2009 to 2020.

The scope of this research was limited to the countries which were a part of Socialist Federal Republic of Yugoslavia, namely Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia and Slovenia. Due to their shared history, geographical proximity, and many accompanying economic similarities, this sample potentially minimizes the differences between the countries and therefore presents a sample which is as similar (uniform) as possible.

Instrument

An Excel spreadsheet was used to store and perform analysis of the gathered data. The analysis was divided into 2 sections based on the timeline:

- Pre-covid-19 period (2009 – 2019)
- During covid-19 period (2020)

First and foremost, the analysis of the secondary data gathered from the sample's countries' statistical websites and the World Bank for a 10-year period between 2009 and 2019 were further examined to set the context. A combination of the Excel spreadsheet functions, and Minitab 19 Descriptive Statistics features was used to analyze the data. A correlation analysis among the 6 countries was performed to summarize their relationship on a basis of the following variables:

- International tourist arrivals
- Number of nights stayed
- International tourism receipts

This way, the paper developed a comprehensive summary of the pre-covid tourism activity conditions in the ex-Yugoslavia countries. The data acquired proved useful in the discussion section with a goal of further explanation of the potential implications of the tourism activity drop that happened in 2020.

In order to quantify the Competitive Destination Model, indicators derived from the Travel and Tourism Competitiveness Report were used as a source of applicable data points. This consequently enabled the numerical representation of competitiveness, thus creating a “Country Competitiveness Score”.

The calculation of the competitiveness score, based on the attributes (Ritchie and Crouch, 2003; Crouch, 2007) and their respective proxies taken from the Travel and Tourism Competitiveness Reports (2015, 2017, 2019), was performed using the following formula:

$$\text{Country Competitiveness Score} = \sum_{i=1}^n (AIW_i \times I_i)$$

“AIW” represents the Attribute Importance weight, and “I” represents the appropriate matching indicator from the Travel and Tourism Competitiveness Report. The sum of the attribute importance weights of all 36 attributes of the conceptual destination competitiveness model is equal to 1 (Crouch, 2007).

For the sake of accuracy and the inability to find the applicable matches for every attribute of the Conceptual Destination Competitiveness Model (Ritchie and Crouch, 2003), the research included the attributes with the greatest importance weight (Crouch, 2007). Out of the 10 most important attributes (n=10), see table 1. for the visual representation of attributes and their global weights, Mix of Activities was excluded as no accurate proxy was found.

Table 1. The Competitive Destination Model Attributes and their respective global weight means

Attribute	Mean global weight
Physiography and Climate	0.05119
Mix of Activities	0.04508
Culture and History	0.04249
Tourism Superstructure	0.03882
Safety and Security	0.03691
Cost/Value	0.03465
Accessibility	0.03449
Awareness/Image	0.03196
Location	0.03127
Infrastructure	0.03115

Source: Crouch, G.I. (2007). *Modelling destination competitiveness: A survey and analysis of the Impact of Competitiveness Attributes.*

Based on thorough research and content analysis, indicators matching 9 out of the 10 most important attributes were found. Table 2. represents the 10 most important attributes from the conceptual destination competitiveness model (Ritchie and Crouch, 2003), excluding the Mix of Activities because of the previously mentioned reason, and their matching indicators from the Travel and Tourism Competitiveness Index (2019).

Table 2. The Competitive Destination Model Attributes and their matching T&T Competitiveness Report Indicators

Attribute	T&T Competitiveness Report Indicator
Physiography and Climate	Natural Resources
Culture and History	Number of World Heritage cultural sites and oral and intangible cultural heritage
Tourism Superstructure	Tourism Service Infrastructure
Safety and Security	Safety and Security
Cost/Value	Price Competitiveness
Accessibility	International Openness
Awareness/Image	Country Brand Strategy Rating
Location	Air Transport infrastructure
Infrastructure	Ground and Port infrastructure

Out of the 9 T&T Competitiveness Report indicators, 7 are pillars themselves, while the number of World Heritage cultural sites, oral and intangible cultural heritage and country brand strategy rating were indicators within the pillars. For the 4 previously mentioned indicators, a normalization formula $6 \times \left(\frac{\text{Country Score} - \text{Sample Minimum}}{\text{Sample Maximum} - \text{Sample Minimum}} \right) + 1$ was used to convert the values to a 1 to 7 score scale (Crotti & Misrahi, 2017; Calderwood & Soshkin, 2019). For the Culture and History attribute, the average of 2 indicators from the Travel and Tourism Competitiveness Report was used because the whole pillar included the business travel characteristics which were irrelevant to the previously mentioned attribute.

The variables used to confirm the relationship between the competitiveness and country's tourism industry resilience were number of international arrivals, number of nights stayed, international tourism receipts (valued in current \$). Minitab 19 program was used to perform the simple linear regression between the Destination Competitiveness Score (predictor) and the

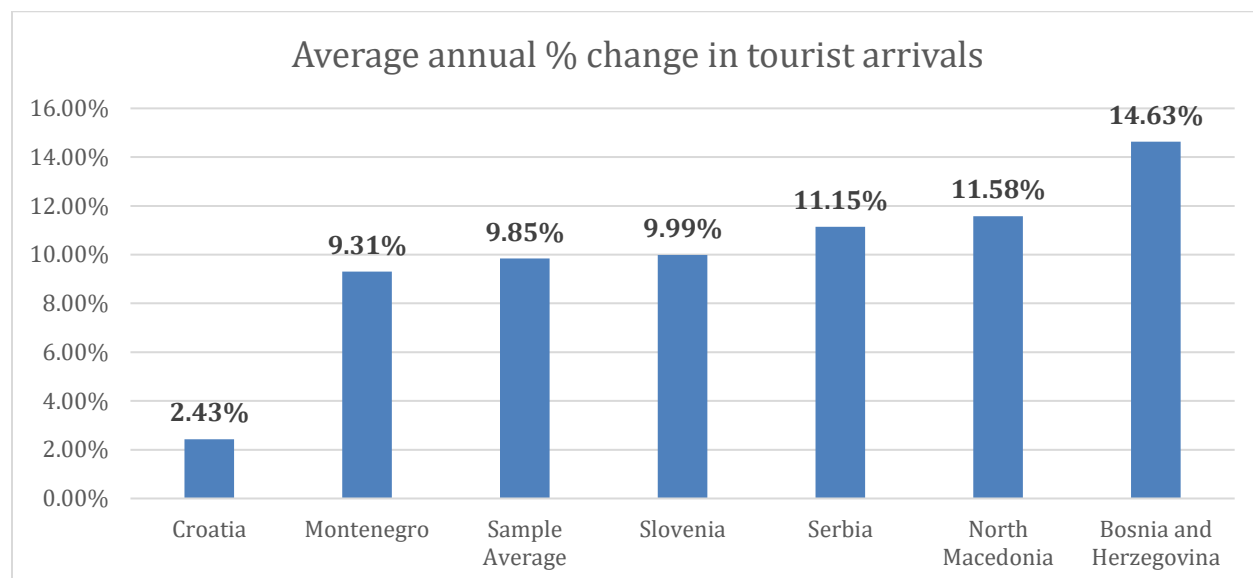
percentage change in the 3 aforementioned variables (responses). The usage of percentage change in variables enabled the comparability of the tourism scene in countries with different capacities.

Results

Pre-covid period

The sample upon which the research was accomplished included the 6 countries which were a part of the Socialist Federal Republic of Yugoslavia, namely Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia and Slovenia. Prior to the appearance of the coronavirus in 2020, a notable upward trend in the tourism sector was present in each country in the sample. Figure 3. shows the average percentage change in international tourist arrivals for a 10-year period, up until 2019. A generally positive change from year-to-year is noticeable and there are only 2 years in which there is a negative percentage change. The only country having the negative percentage change in the mentioned time period was Croatia, with the decrease in arrivals in 2012 and 2018. This may present a wrong picture as Croatia is the most dominant country when it comes to the absolute number of international tourist arrivals and is by far the most visited country in comparison to the other countries from this sample. The average percentage change in tourist arrivals for a pre-covid 10-year period in the ex-Yugoslavia countries was around 10%, with 3 out of the 6 countries having the average percentage change in tourist arrivals above the sample mean. The only two countries which had this metric lower than the average were Croatia and Montenegro ($M=9.31\%$, $SD=5.90\%$), with Croatia having the lowest % change and relatively low volatility across the sample during this period ($M=2.43\%$, $SD=4.09\%$).

Figure 3. Bar graph of an average annual percentage change in international tourist arrivals (2010-2019)



Furthermore, table 3 provides a summary of the absolute values for the 3 tourism-related variables in 2019. In comparison to the other tables and figures which present averages, table 3 focuses on the most recent pre-covid state, in which the countries were just before the covid-19 pandemic. Based on the information provided, it becomes apparent that Croatia had the biggest tourism industry among the sample countries, as it had the greatest values in all 3 variables. On the other hand, North Macedonia had the lowest absolute values in all categories, while also having the lowest 10-year average when it comes to tourism as a percentage of GDP.

Table 3. Absolute values of tourism-related variables in 2019

Country	International Tourist Arrivals	International Tourism Receipts (US \$)	Number of nights stayed
Bosnia and Herzegovina	1,198,000	1,225,000,000	3,374,452
Croatia	60,021,000	11,974,000,000	91,242,931
Montenegro	2,510,000	1,276,000,000	14,455,920
North Macedonia	758,000	401,000,000	3,262,398
Serbia	1,847,000	2,000,000,000	10,073,299
Slovenia	4,702,000	3,353,100,098	15,775,331

Source: World Bank Database and the sample countries' statistical offices

A correlation analysis performed by the Minitab 19 program presented a strong positive correlation between the countries' international tourist arrivals and international tourism receipts for a period between 2010 and 2019, and for the number of nights stayed for a period between 2011 and 2019. Tables 4, 5 and 6 represent the correlation matrices of the sample countries' number of international tourist arrivals, amount of international tourism receipts and the number of nights stayed respectively. Statistical significance of every relationship in Tables 4, 5 and 6 were less than 0.05 ($p < 0.05$).

Table 4. Correlation Matrix – International Tourist Arrivals (2010-2019)

	Bosnia and Herzegovina	Croatia	Montenegro	North Macedonia	Serbia
Croatia	0.913*				
Montenegro	0.988*	0.879*			
North Macedonia	0.992*	0.897*	0.978*		
Serbia	0.997*	0.909*	0.981*	0.996*	
Slovenia	0.996*	0.912*	0.981*	0.994*	0.997*

* p -value < 0.05

Table 5. Correlation Matrix – International Tourism Receipts (2010-2019)

	Bosnia and Herzegovina	Croatia	Montenegro	North Macedonia	Serbia
Croatia	0.864*				
Montenegro	0.976*	0.910*			
North Macedonia	0.961*	0.915*	0.986*		
Serbia	0.983*	0.872*	0.987*	0.985*	
Slovenia	0.732*	0.939*	0.775*	0.778*	0.719*

**p-value* < 0.05

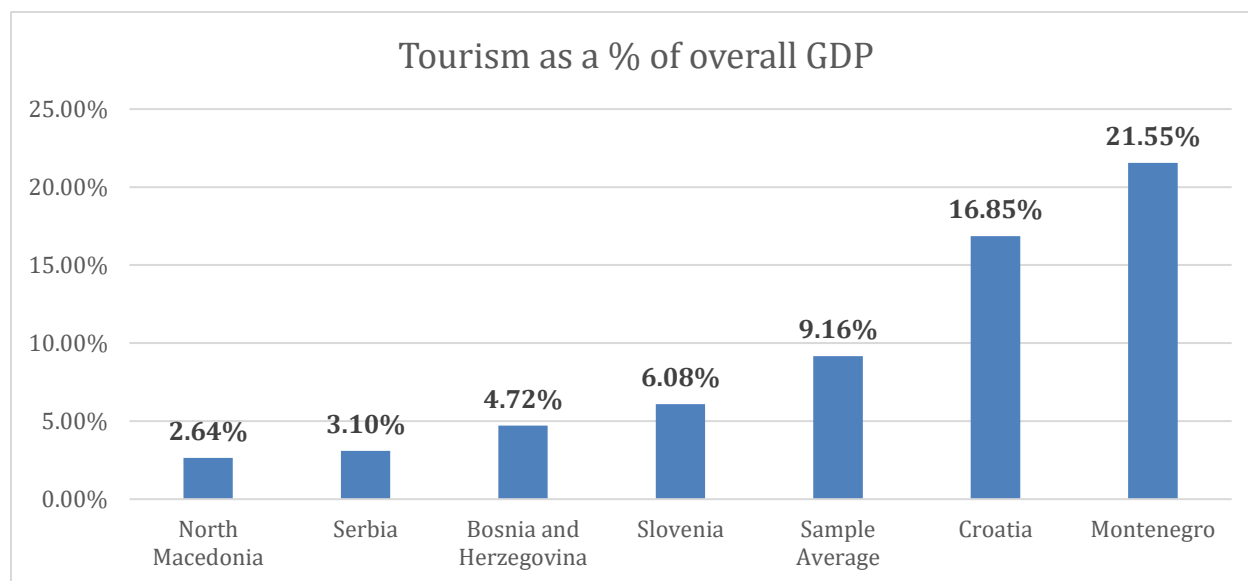
Table 6. Correlation Matrix – Nights Stayed (2011-2019)

	Bosnia and Herzegovina	Croatia	Montenegro	North Macedonia	Serbia
Croatia	0.984*				
Montenegro	0.992*	0.965*			
North Macedonia	0.978*	0.959*	0.965*		
Serbia	0.963*	0.934*	0.941*	0.980*	
Slovenia	0.985*	0.985*	0.963*	0.990*	0.974*

**p-value* < 0.05

Between the year 2010 and 2019, Montenegro had the highest percentage of its GDP tied to the tourism sector (21.55%), while North Macedonia had the lowest (2.64%). Figure 4. provides a graphical representation of the tourism as a percentage of country's Gross Domestic Product, the average values for a 10-year period between 2010 and 2019. As Figure 4 shows, Montenegro's and Croatia's tourism represent a significantly greater portion of GDP in comparison with the rest of the countries. In case of Montenegro, one may say that the high percentage may not represent the development of the tourism sector, but rather a significantly smaller Gross Domestic Product. On the other hand, Croatia's GDP is the greatest among this sample (World Bank, 2021), consequently its tourism industry is by far the greatest in the absolute amounts.

Figure 4. Bar graph of tourism as a percentage of overall GDP, average between 2010 and 2019



Based on the indicators extracted from the Travel and Tourism Competitiveness Report (Crotti et al., 2015; Crotti & Misrahi, 2017), the country competitiveness scores were calculated. The scores represent a sum of the product of the attribute importance and their matching numerical value from the Travel and Tourism Competitiveness Reports. Between the years 2015 and 2017, Croatia moved up from the second position to the top and therefore overcame Slovenia who had the highest score in 2015. No more movements were noticed, as Montenegro, North Macedonia and Serbia kept the 3rd, 4th, and 5th places respectively, notwithstanding their incremental increase in the competitiveness score. Due to the unavailability of data on Bosnia and Herzegovina in the Travel and Tourism Competitiveness Report 2015 (Crotti et al., 2015), the only available competitiveness score for the pre-covid period was from 2017 and it was the minimum of this sample (3.14). Table 7. summarizes the calculated competitiveness scores for the sample countries along with their respective Travel and Tourism Competitiveness Indices for 2015 and 2017.

Table 7. Calculated competitiveness scores and the Travel and Tourism Competitiveness Indices of the Former Yugoslavia countries in 2015 and 2017

Country	Competitiveness Score 2015	Travel and Tourism Competitiveness Index 2015	Competitiveness Score 2017	Travel and Tourism Competitiveness Index 2017
Croatia	4.14	4.30	4.36	4.42
Slovenia	4.22	4.17	4.14	4.20
Montenegro	3.42	3.75	3.50	3.70
North Macedonia	3.16	3.50	3.26	3.49
Serbia	3.09	3.34	3.05	3.38
Bosnia and Herzegovina	N/A	N/A	3.04	3.12

Intra-covid period

Economies of the countries in question have all experienced a significant decrease in 2020 when compared to the previous year. The only exception, when it comes to the overall GDP is Serbia, which managed to maintain the uptrend in its Gross Domestic Product when compared to the previous year (3.53%). A significant decrease in all types of tourism industry were recorded in the year 2020. As tourism represents 3.1% of Serbia's GDP (Figure 4), the impact of covid-19 pandemic was not as severe as in the countries whose GDP comprised of a much higher tourism industry percentage.

When looking at a big picture regarding the 6 ex-Yugoslavia countries, the greatest percentage decrease in 2020 happened in the number of international tourist arrivals (M=-78.00%). The maximum decrease occurred in Montenegro and the minimum in Croatia, -86.02% and -64.00% respectively. Furthermore, the average percentage change in the number of nights stayed for the whole sample was -58.46%, maximum decrease was recorded in Montenegro (-82.10%) and the minimum was recorded in Serbia (-38.44%). The smallest average percentage change was noted in the international tourism receipts, -54.44%. The previously mentioned change minimum

and maximum values happened in the same countries as for the number of nights stayed, Montenegro (-85.89%) and Serbia (-28.90%).

With a goal of providing more context regarding the competitiveness score, the differences between the aforementioned and the Travel and Tourism competitiveness indices are shown in Table 8. The average difference between the two metrics was 0.11 with Serbia being the country with the greatest discrepancy between the two competitiveness indicators (0.26).

Table 8. Difference between the calculated 2019 competitiveness score and the 2019 Travel and Tourism Competitiveness Index

Country	Competitiveness Score	Travel and Tourism Competitiveness Index	Difference*
Croatia	4.62	4.50	0.12
Slovenia	4.28	4.30	0.02
Montenegro	3.81	3.90	0.09
Bosnia and Herzegovina	3.39	3.30	0.09
Serbia	3.34	3.60	0.26
North Macedonia	3.30	3.40	0.10

**Values in the difference column are the absolute values*

The ranking list of the sample countries' 2019 competitiveness scores along with the respective percentage changes in the 3 main variables is presented in Table 9. From the table, it can be seen that the decrease in the competitiveness score in the top 3 ranked countries (Croatia, Slovenia, Montenegro) was followed by an increased negative percentage change in the tourism variables. However, the same does not apply for the remainder of the list.

Table 9. Ranking list of the sample countries based on their competitiveness scores accompanied by the percentage change between 2019 and 2020 in the 3 main tourism-related variables

Ranking	Country	Competitiveness Score	% Change in arrivals	% Change in tourism receipts	% Change in nights stayed
1.	Croatia	4.62	-64.00%	-52.97%	-55.29%
2.	Slovenia	4.28	-74.14%	-57.71%	-63.74%
3.	Montenegro	3.81	-86.02%	-85.89%	-82.10%
4.	Bosnia and Herzegovina	3.39	-83.56%	-64.24%	-63.22%
5.	Serbia	3.34	-75.85%	-28.90%	-38.44%
6.	North Macedonia	3.30	-84.43%	-36.91%	-47.97%

Based on the simple linear regression performed through Minitab 19 program, a significant positive relationship between the competitiveness score and the percentage change in arrivals ($R^2=58.66\%$, $p=0.076$) was deduced. No significant relationship was found when the competitiveness score was set up as a predictor of the percentage change in tourism receipts and number of nights stayed.

In summary, all the gathered tourism-related variables indicated a significant decrease in the tourism activity of the ex-Yugoslavian countries in 2020. This research's calculated competitiveness score had a positive linear relationship only with one of the three analyzed variables, namely the percentage change in arrivals in 2020.

Discussion

The "Pre-covid period" section in the Results provided an exhaustive list of information regarding the tourism industry and its importance in the respective countries included in this paper's sample. The main takeaway was that, at the macro level, tourism in every country was gradually increasing. However, Croatia, a country which recorded the lowest annual percentage change in its international tourist arrivals may create some confusion. The aforementioned country

has the highest GDP in the sample with approximately 15% of it coming from tourism industry. This information points towards the fact that Croatia has the most developed tourism industry, which consequently means that larger absolute changes still produce lower percentage movements. On the other hand, countries like Bosnia and Herzegovina, Serbia and North Macedonia, whose tourism industry isn't even closely developed as the Croatian ones usually experience greater annual change percentagewise.

An interesting finding was that the competitiveness scores, calculated with the attribute importance weights (Crouch, 2007) and Travel and Tourism Competitiveness Report's indicators (Calderwood & Soshkin, 2019), were relatively close to the Travel and Tourism Competitiveness Indices. This fact goes in support of the validity and relevance of the two different competitiveness models.

It goes without saying that coronavirus wiped out a significant portion of the travel and tourism industry in 2020, and the results from the Table 9. speak to that notion. However, the percentage decrease in tourism receipts and the number of nights stayed was lower than the one noted in the number of arrivals. This finding may be explained by the change in the tourism demographics and the sudden imposition of the coronavirus restrictive measures. The lockdown may have prevented people from leaving both their country or the country that they've found themselves in. This consequently decreased the number of arrivals, but potentially increased the number of nights stayed. Furthermore, the longer the stay, the more money a tourist would spend. Nevertheless, a possible explanation for this could be the change in the overall profile of travel. People's willingness to limit their potential exposure to the virus and to minimize the pandemic travel-related inconveniences, may have pushed the travelers towards less frequent, but longer trips.

Surprisingly, during 2020 Serbia was found to have mildest decrease in its tourism receipts and nights stayed notwithstanding its competitiveness score which was second to last on the ex-Yugoslavia countries' ranking list. In order to explain this occurrence, future research would have to look at the actual profiles of the Serbian tourists to try and determine the main reason behind this outlier. Serbia had a 75.85% decline in arrivals (table 9), yet their receipts and nights stayed weren't down as much the other countries'. This suggests that the people that did come, stayed for a longer period of time and spent money. Therefore, it may be possible that the reason behind this were tourist who were "stuck" in Serbia, potentially because their home countries imposed strict travel restrictions.

The regression analysis suggests that the hypothesis posed in this paper was partially correct. Null hypothesis was not rejected for the first sub-hypothesis (international tourist arrivals), while that was not the case for the other 2. The higher competitiveness score only had an impact when it came to the percentage change in the number of international tourist arrivals, which was the variable with the greatest percentage decrease out of the 3 variables included in this study. As there was no significant relationship with the other 2 tourism-related variables, it seems too far-fetched to state that the higher competitiveness score was followed by the milder impact of coronavirus.

In summary, the tourism industry experienced a significant percentage decrease in 2020 (Table 9). The quantification of the Destination Competitiveness model, supported by the Travel and Tourism Competitiveness Index, and comparison with the aforementioned tourism activity drop enabled the verification of the models' validity and robustness in the extraordinary circumstances.

Limitations

Unfortunately, one of the biggest influences, which was not included in the analysis were the imposed restrictions for the suppression of coronavirus. As these were imposed by governments, they varied from country to country. The travel restrictions were also implemented all over the world. These had an enormous impact on the tourism industry as they could completely shut the connection between a destination and its source market, which was the case of Croatia and the United Kingdom. If further research were to extrapolate the study and use a bigger sample, it should potentially look into expanding the number of attributes used to calculate the Overall Competitiveness Score. This would consequently minimize the margin of error due to the usage of more attributes.

The other limitation could be associated with the attribute proxies. The Travel and Tourism Competitiveness Report, even though a very useful source of information, may not be the ideal resource for the finding of the appropriate numerical values of the attributes. The main reason for this being the gap between the reports, as they are published every 2 years (Calderwood & Soshkin, 2019) which limits the overall dataset for analysis. However, it is a very good starting point, but if the goal would be to increase the number of attributes used in the calculation, other sources of data would have to be explored in order to find the appropriate attribute matches.

Final Remarks

Notwithstanding the limitations which were present throughout the research, the paper made an attempt at quantifying the Destination Competitiveness Model developed by Ritchie and Crouch (2003) and determining the connection between the country's competitiveness score and its tourism activity. By looking at the abovementioned limitations, future researchers may be able to further polish the deduced competitiveness score and potentially implement more elaborate

statistical analysis. Nevertheless, it is important to note that in a fast-paced world as it is today, the destination competitiveness presents a concept which will constantly evolve and be in a need of corrections. The deeper knowledge regarding the predictive side of the Destination Model should enable tourism managers to be in control if another disaster hits.

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