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3 The role of tourism within the broader regional economic environment

Brief characteristic

The chapter offers a deep understanding of factors that are operative within tourism development with regard to the economic regional environment explained on the example of in North Macedonia. It develops a thorough understanding of tourism in North Macedonia by involving the collection of multiple sources of evidence and using a range of quantitative analyses. An attempt is made to explain the role of tourism in regional development and growth and its empirical application. New insights are provided as a comparison to selected countries of South and Mediterranean Europe, with an accent to the neighboring countries. Two major topics are explained: (1) The nature of tourism in the broader regional economic growth, and (2) The role of tourism in the economic development of North Macedonia. Finally, the discussion focused on stronger integration between the neighbouring countries in the region.

Learning objectives

Students will be able to acknowledge the problems and challenges for tourism development in North Macedonia embedded in the regional context, driving through economic impacts. Data are presented to stimulate a broad spectrum of positive thinking and provide real examples.

Background

According to the last official census from 2021, North Macedonia has 1,836,713 inhabitants (Statistical Office of the Republic of North Macedonia, online data). Table 1 presents data on the basic economic indicators.

Table 1 Basic indicators for North Macedonia, 2021

| | |
|--|---------|
| GDP per capita (current USD) | 6,720.9 |
| GDP growth (%) | 4 |
| Total unemployment (%) | 16.2 |
| Inflation, consumer prices (annual, %) | 3.2 |

Source: World Bank (online data).

In 1995, tourism revenue in North Macedonia was 19 million USD (0.4% of the gross national product – GNP) and only 129 USD receipts per tourist. More than two decades later, in 2019, the role of tourism significantly increased with 401 million USD and 529 USD receipts per tourist (World Data, online). Tourism revenue covers different forms of accommodation, including hotels for leisure, hotels for business and conference centers, camping sites, and spas. Increased tourism activity meant generating 20,000 jobs in tourism-related industries accounting for about 3% of total employment (Statistical Office of the Republic of North Macedonia, online data). The absolute impact of a change in tourism activity depends on the size of the country and tourism intensity. As a small country, North Macedonia in 2019

attracted 1,184,963 tourists out of which 63% foreign tourists and 36% domestic with almost equal contribution of overnights and a modest length of stay of only 2,8 days.

The positive trend in tourism development was harshly interrupted by the COVID-19 pandemic spreading over 2020. It dramatically affected the tourism sector provoking a loss of -61% in total tourist arrivals when the international tourism demand was practically wiped-out with -85% loss. The total overnights noted a loss of -48% when domestic demand fully dominated with 85% of total registered overnights. Tourism-generated employment decreased by almost 4,500 jobs severely affecting the overall economy. Various health and economic measures were introduced in the country in the line of preventing further damage to the tourism sector. Consequently, in 2021, a slow increase in tourism activity was noted compared to 2020 (total arrivals +51% and total overnights +36%) with a modest increase in foreign arrivals (+17%) and a fantastic increase of foreign overnights (+165%) (Statistical Office of the Republic of North Macedonia, online data).

Table 2 Factors explaining the total effect of tourism impacts in North Macedonia, 2019

| | |
|---|---------|
| Total employment | 621,821 |
| Tourism-generated employment | 19,194 |
| Tourism-generated employment as a share of total employment (%) | 3.09 |

Source: Authors' calculations.

Table 2 presents the factors that explain both the absolute and relative impacts of tourism (Zhang et al., 2007). The absolute impact on the economy is shown by the total employment and the tourism-generated employment, while the relative impact is shown by the share of tourism-generated employment in the total employment.

Table 3 Factors explaining the direct effects of tourism impacts in North Macedonia, 2019

| | |
|---------------------------------|-----------|
| Number of tourist overnights | 3,262,398 |
| Tourist overnights / population | 1.78 |
| Tourism revenue in the GNP (%) | 3,2 |

Source: Authors' calculations.

Factors that explain the direct effects of tourism impacts are presented in Table 3. The factors, such as the number of tourists and tourism revenue, determine the absolute magnitude of the direct effects of tourism (Zhang et al., 2007). The relative importance of tourism is also examined by the tourist intensity, represented by the ratio of tourists to the population.

There is considerable interest among scholars in the regional economic development issue and the role of tourism. This is particularly urged in the early 1990s when adding tourism as an important multidisciplinary topic, first by developing 'New Economic Geography' (NEG) and 'Evolutionary Economic Geography' (EEG) (Calero and Turner, 2020), and later by introducing Tourism Satellite Account (TSA) (UNSC et al., 2008). Over the years, tourism has been recognized as an important driver of regional development, so many scholars propose and apply models to theoretically and empirically evaluate the role of tourism.

There is a vast literature based on statistical and econometric models, like the Keynesian income multipliers (Archer and Fletcher, 1996), the input-output model (Lamonica and Mattioli, 2015; vanWyk et al., 2015; Williams, 2016), social accounting matrix based models (Wagner, 1997, Zhang, 2002), computable general equilibrium model (Allan et al., 2017; Dong et al.,

2018; Dwyer et al., 2016; Li et al., 2017), time-series and structural vector autoregressive approaches (Andraz et al., 2015; Cashin et al., 2014), gravity models (Park and Jang, 2014; Santana-Gallego et al., 2016), neuron network systems and fuzzy logic (Ma et al., 2018), model of a small open economy under conditions of perfect competition (Zhang, 2017), etc.

So, many theories and models on tourism impacts have been posed and numerous methodologies have been developed, offering various aspects of knowledge with supporting or opposing attitudes. Yet, generally, one may summarize them as:

- (1) Theories that discuss tourism and regional convergence (addressing the impact of tourism on economic development, like Andraz et al. 2015; Ma et al., 2018; Pascariu and Țigănașu 2014; Sharpley and Telfer, 2014), and
- (2) Theories that relate tourism to regional growth theory (focusing on regional economic impacts and evolution, like Brouder, 2017; Meekes et al., 2017; Mellon and Bramwell, 2016; Polukhina, 2016; Yang et al. 2018).

The myriad of empirical work will continue, with models addressing tourism as a development factor for regional development in developed countries, and as a contributor to economic development in less-developed countries (Calero and Turner, 2020).

The following two research questions (RQ) are addressed to gain a thorough understanding of the many elements that influence tourism growth in North Macedonia in relation to the regional economic environment:

RQ₁: Mapping the nature of tourism in the broader regional economic growth and development.

RQ₂: Quantifying the role of tourism in North Macedonia.

The RQ₁ is addressed by comparing and discussing data for selected countries in South and Mediterranean Europe on: (1) Number of overnights and (2) Tourism income.

The RQ₂ referred to identifying insights for North Macedonia for: (1) Intensity of tourism-generated employment, (2) Level of the seasonality of tourism market among selected incoming neighboring tourism countries, and (3) Constructing a valid model for forecasting international tourism demand in the line with the structural break of the COVID-19 pandemic.

Both research questions served as triggers providing the basis for systematic discussion and conclusion. Data were collected from multiple secondary sources of evidence for North Macedonia and the following selected countries from South and Mediterranean Europe: Albania, Croatia, Greece, Montenegro, Serbia, and Slovenia. National and international statistical documents were reviewed, and data were extracted for various calculations. Simultaneously, a comprehensive content analysis was conducted on the literature covering the issues of regional economic development and the role of tourism. The quantitative methods referred to various calculations as chain indexes, Gini and Theil indexes, and the seasonality auto-regressive moving average model (SARIMA) for forecasting. The data set differed with regards to the calculations, but generally started as of 2012 until 2021.

1 Tourism in North Macedonia within the Broader Regional Concept

Tourism development of North Macedonia is compared within the South and Mediterranean Europe (selection of Albania, Croatia, Greece, Montenegro, Serbia, and Slovenia) to investigate tourism nature and dynamics within the broader regional economic growth and development. Table 4 presents stylized facts on the number of total overnights

along with chain indexes calculated for selected countries in South and Mediterranean Europe for the period 2015-2021.

Table 4 Number of total overnights and chain indexes in selected countries in South and Mediterranean Europe, 2015-2021

| Country/Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------|-------------|-------------|-------------|-------------|-------------|------------|------------|
| Albania | : | : | : | 3,074,657 | 3,253,419 | 1,605,444 | 3,186,072 |
| | | | | 100 | 106 | 49 | 198 |
| Croatia | 71,339,000 | 77,824,114 | 86,094,847 | 89,567,653 | 91,178,083 | 40,771,344 | 70,201,959 |
| | 100 | 109 | 111 | 104 | 102 | 45 | 172 |
| Greece | 106,064,266 | 110,020,042 | 119,009,014 | 142,940,411 | 143,594,467 | 38,475,016 | 73,886,813 |
| | 100 | 104 | 108 | 120 | 100 | 27 | 192 |
| Montenegro | 11,054,947 | 11,250,005 | 11,953,316 | 12,930,334 | 14,455,920 | 2,587,255 | 9,423,803 |
| | 100 | 102 | 106 | 108 | 112 | 18 | 364 |
| North Macedonia | 2,394,205 | 2,461,160 | 2,775,152 | 3,176,808 | 3,262,398 | 1,697,535 | 2,313,543 |
| | 100 | 103 | 113 | 114 | 103 | 52 | 136 |
| Serbia | 6,651,852 | 7,533,739 | 8,325,144 | 9,336,103 | 10,073,299 | 6,201,290 | 8,162,430 |
| | 100 | 113 | 111 | 112 | 108 | 62 | 132 |
| Slovenia | 10,224,207 | 11,057,731 | 12,460,084 | 15,694,705 | 15,758,691 | 9,188,303 | 11,251,158 |
| | 100 | 108 | 113 | 126 | 100 | 58 | 122 |

Source: Croatian Bureau of Statistics, Eurostat, State Statistical Office of Albania, State Statistical Office of the Republic of North Macedonia, Statistical Office of Montenegro, Statistical Office of Serbia, Statistical Office of Slovenia, World Bank (online data).

Based on Table 4 it is noticeable that during 2015-2021, Slovenia had the largest cumulative increase in total overnights (54%) and the smallest decrease in 2020 due to the COVID-19 pandemic. Second-ranked is Serbia which had an increase in total overnights of 51%, while Croatia had the lowest increase of only 28%. North Macedonia noted an increase of 36%, which is slightly lower compared to the average increase in total overnights for the whole sample (39%). This indicates modest tourism development compared to the average for selected countries from South and Mediterranean Europe.

In 2020, the COVID-19 pandemic provoked severe damage with an extreme decrease in the total overnights of 82% in Montenegro, 73% in Greece, and 48% in North Macedonia. While some countries had difficulties overcoming the negative effects of the pandemic, some successfully managed to recover. In 2021, in only just two years since the COVID-19 pandemic, Albania noted the largest increase in total overnights by returning 98%, Serbia 81%, and North Macedonia 71%. Consequently, in the post-pandemic period, the number of total overnights averaged 73% of total overnights in 2019 for the whole sample, indicating accelerating recovery and stimulus for tourism development. North Macedonia with a 71% recovery is still lacking behind that average of the region of South and Mediterranean Europe, pointing to the importance of financial incentives, strengthening promotion activities, and boosting consumer confidence for a speedy recovery.

Table 5 provides data on the tourism income of selected countries from South and Mediterranean Europe for 2015-2020, as well as their share in total export.

Table 5 Tourism income (000 USD) and share in total exports (%) in selected countries in South and Mediterranean Europe, 2015-2020

| Country/Year | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------------|-----------------------|------------|------------|------------|------------|------------|-----------|
| Albania | Tourism income in 000 | 1,499,000 | 1,693,000 | 1,943,000 | 2,186,000 | 2,329,000 | 1,134,000 |
| | % of total exports | 51.96 | 52.94 | 49.47 | 48.20 | 50.97 | 35.92 |
| Croatia | Tourism income in 000 | 8,022,000 | 9,028,000 | 10,320,000 | 11,127,000 | 11,753,000 | 5,568,853 |
| | % of total exports | 35.69 | 37.32 | 37.60 | 36.94 | 37.94 | 23.27 |
| Greece | Tourism income in 000 | 15,665,000 | 14,727,000 | 16,875,000 | 18,821,000 | 20,276,000 | 5,015,000 |
| | % of total exports | 28.02 | 27.88 | 27.30 | 26.38 | 28.33 | 10.49 |
| Montenegro | Tourism income in 000 | 903,000 | 933,000 | 1,067,000 | 1,171,000 | 1,224,000 | 166,000 |
| | % of total exports | 55.27 | 54.81 | 54.81 | 52.16 | 52.64 | 14.43 |
| North Macedonia | Tourism income in 000 | 265,000 | 280,000 | 327,000 | 382,000 | 396,000 | 252,000 |
| | % of total exports | 5.46 | 5.20 | 5.30 | 5.08 | 5.14 | 3.52 |
| Serbia | Tourism income in 000 | 1,048,000 | 1,151,000 | 1,345,000 | 1,547,000 | 1,604,000 | 1,245,000 |
| | % of total exports | 7.58 | 7.60 | 7.80 | 7.77 | 7.65 | 5.58 |
| Slovenia | Tourism income in 000 | 2,399,000 | 2,517,500 | 2,869,000 | 3,181,100 | 3,179,800 | 1,370,300 |
| | % of total exports | 7.82 | 7.82 | 7.55 | 7.35 | 7.36 | 3.39 |

Source: World Bank (online data).

Table 5 shows that Montenegro had the largest share in the exports of the selected countries, but also the largest decline in 2020. Understandably, Greece had the highest tourism income of over 20 billion USD in 2019, followed by Croatia with almost 12 billion dollars. Serbia has the smallest decrease in income, followed by North Macedonia. Among selected countries, North Macedonia noted the lowest participation in exports (an average of 4,95% for 2015-2020). Yet, being surrounded by neighboring countries that have much bigger tourism income and significant participation in total export, opens new horizons for North Macedonia in the line of creating joint regional tourism product.

2 Tourism impacts in North Macedonia

Quantifying the role of tourism in North Macedonia is important to understand the main factors that affect its development. In this line, some new insights are presented with regard to tourism-generated employment, the tourism market, and international tourism demand.

Table 6 Tourism-generated employment in North Macedonia, 2014-2020

| Year | Catering trade and services | Travel agencies, tour operators, and other booking services as well as other related activities | Total tourism-generated employment | Total employment | Share of total employment (%) | Chain indexes (%) |
|------|-----------------------------|---|------------------------------------|------------------|-------------------------------|-------------------|
| | | | | | | |

| | | | | | | |
|------|--------|-------|--------|---------|------|-----|
| 2014 | 13,076 | 1,186 | 14,262 | 501,788 | 2.84 | 100 |
| 2015 | 14,874 | 1,254 | 16,128 | 519,031 | 3.11 | 113 |
| 2016 | 15,209 | 1,267 | 16,476 | 534,200 | 3.08 | 102 |
| 2017 | 15,665 | 1,318 | 16,983 | 548,681 | 3.10 | 103 |
| 2018 | 16,985 | 1,357 | 18,342 | 567,230 | 3.23 | 108 |
| 2019 | 17,662 | 1,532 | 19,194 | 621,821 | 3.09 | 105 |
| 2020 | 13,397 | 1,300 | 14,697 | 602,722 | 2.44 | 77 |

Source: State Statistical Office of the Republic of North Macedonia (online data).

Table 6 gives stylized facts on tourism-generated employment in North Macedonia during 2014-2020. Total tourism-generated employment in North Macedonia encompasses employees in the catering trade and services, together with those employed in travel agencies, tour operators, and other booking services as well as other related activities. Over 90% of the tourism labor force originates from accommodation facilities and facilities that provide food preparation and service. To this, the number of employees in the travel sector is added, in terms of travel agencies, tour operators and various travel and booking services. The number of the latter was rather constant over the years. Based on Table 6 it is noticeable that there were no significant changes in the number of employees in tourism during the sample period (2014-2020). The share of total employment spread between 2.84-3.23%, with an average of 3%. The biggest increase of 9% was noted in 2015 (1,866 employees), and the biggest decline of 28% was registered in 2020 when due to the COVID-19 pandemic, almost 4,500 employees lost their jobs in tourism.

At this point, the total contribution of travel and tourism to employment encompassed 54,800 employees (6,9% of total jobs) in 2019, dropping to -12.1% (41,000 jobs) in 2020, expecting to recover +6.6% or 51,300 jobs in 2021 (WTTC, 2022).

Seasonality in tourism is a general character as an influencing factor for limiting continuous development. When investigating the case of North Macedonia, it is found low seasonality with no significance (Petrevska, 2013, 2014; Petrevska and Nikolovski, 2018). This is also the case when investigating its level among selected top incoming neighboring tourism countries from South and Mediterranean Europe (Albania, Bulgaria, and Serbia). Table 7 presents summarized statistical data from the calculation of Gini and Theil indexes.

Table 7. Summarized data for selected incoming neighboring tourism countries from South and Mediterranean Europe

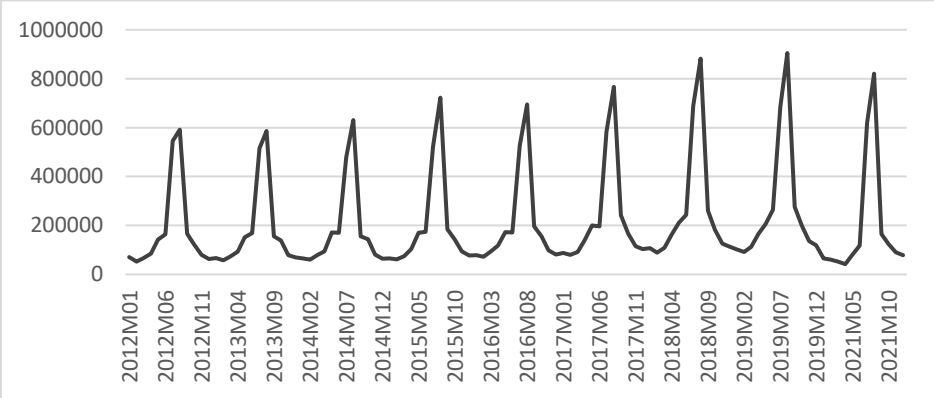
| Indicators | Albania | Bulgaria | Serbia |
|---|----------|----------|----------|
| International overnights (%), 2019 | 3.53 | 5.91 | 6.72 |
| Average Gini index, 2011-2019 | 0.111028 | 0.101895 | 0.113792 |
| Average Theil index, 2011-2019 | 0.025560 | 0.019574 | 0.029896 |
| Correlation coefficients between Gini and Theil indexes | 0.860063 | 0.946001 | 0.772322 |

Source: Authors' calculations based on the State Statistical Office (online data).

Despite the modest contribution of 3-7% share of the inbound tourism market in 2019, Albania, Bulgaria and Serbia as neighboring countries from the region of South and Mediterranean Europe, are important to North Macedonia. Based on calculations of Gini and Theil indexes for the period 2011-2019, the level of seasonality in terms of international tourism demand, is identified. Based on Table 7, Bulgaria has the lowest average seasonality indexes (Gini 0.101895, and Theil 0.019574) meaning that visitors from Bulgaria have the most variation in the statistics, just slightly bigger than Albania (average Gini 0.111028, and Theil 0.025560) and Serbia (average Gini 0.113792, and Theil 0.029896). The calculated values of the correlation coefficients between the seasonality indicators (Albania 0.860063, Bulgaria 0.946001, and Serbia 0.772322) imply no substantial difference in seasonality between the years in any of the selected incoming countries. So, the tourism seasonality of the neighboring countries Albania, Bulgaria, and Serbia is low which practically means that North Macedonia is attracting visitors from these countries all year round. This is a good starting point for more intensive promotion to increase the modest share in total international overnights.

The global COVID-19 pandemic provoked a new environment different than the previous setting myriad of open issues for discussion as possible development pathways (Lew et al., 2020). North Macedonia noted a loss of more than half of total tourist arrivals and total overnights, with almost no international tourism demand. In the line with the structural break of the COVID-19 pandemic, a SARIMA model was constructed that may further forecast valid data in the post-pandemic period.

Graph 1 presents monthly data on international overnights 2012M1:2019M12 in North Macedonia, as well as the monthly data for 2021. The series deliberately omits data for 2020 since it is not a reference year due to the pandemic, but might make modeling with invalid forecasted values.



Graph 1 Foreign tourism overnights in North Macedonia, monthly data 2012-2021

Source: Authors' calculations

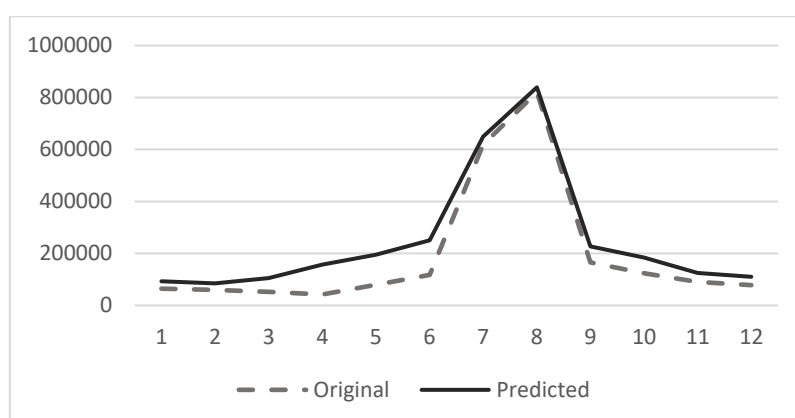
After performing all pre-processing of the series (logarithm, differentiations, unit root test, identifying the structural change, stationing and correlation of the series, identifying seasonal autoregressive component), several different models were tested. The one that was selected contained the following variables AR(12), AR(1) and MA(2) (Table 8).

Table 8 Forecasting model

| Included observations: 94 | | | | |
|--|-------------|-----------------------|-------------|--------|
| Convergence achieved after 164 iterations | | | | |
| Coefficient covariance computed using outer product of gradients | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| AR(12) | 0.936839 | 0.024395 | 38.40249 | 0.0000 |
| AR(1) | -0.045442 | 0.021738 | -2.090395 | 0.0394 |
| MA(2) | -0.182539 | 0.055147 | -3.310035 | 0.0013 |
| SIGMASQ | 0.051848 | 0.004606 | 11.25734 | 0.0000 |
| R-squared | 0.901244 | Mean dependent var | -9.87E-05 | |
| Adjusted R-squared | 0.897953 | S.D. dependent var | 0.728461 | |
| S.E. of regression | 0.232706 | Akaike info criterion | 0.252583 | |
| Sum squared resid | 4.873685 | Schwarz criterion | 0.360809 | |
| Log likelihood | -7.871416 | Hannan-Quinn criter. | 0.296298 | |
| Durbin-Watson stat | 2.014134 | | | |

Source: Authors' calculations

Upon the constructed model, a 12-month extension was calculated. So, based on the original data for 2021, an in-sample forecast was performed (Graph 2). It presents a clear insight into comparing the original number of foreign overnights registered in 2021 to the predicted one. It is noticeable that the biggest error in the estimation occurs before the main tourism season (April-June) and after (September-November).

**Graph 2** In-sample forecast for 2021

Source: Authors' calculations

Nevertheless, the suggested model is completely valid and offers accurate modeling of series through which the impact of the pandemic on tourism development can be monitored.

After sufficient time in the post-pandemic period, the model may produce valid forecasted values.

Conclusion

The chapter investigated two major aspects related to tourism development and regional economy.

Firstly, the chapter addressed the nature of tourism within the broader regional economic growth and development. It compared tourism of North Macedonia to the tourism development of Albania, Croatia, Greece, Montenegro, Serbia, and Slovenia as selected countries from South and Mediterranean Europe. During 2015-2021, North Macedonia noted an average cumulative increase of only 36%, being far the lowest in the sample. This is even lower than the average increase in total overnights for the whole sample (39%). In 2021, as a post-COVID-19 period, North Macedonia managed to successfully recover 71% of total overnights in 2019, which is also under the whole sample average (73%). Modest tourism development was further confirmed by the fact that North Macedonia had the lowest participation of tourism in total exports compared to the neighboring countries from the sample. As such, new frontiers are set as open for North Macedonia in the line of creating joint regional tourism product.

Secondly, the chapter tried to quantify the role of tourism in North Macedonia. The analysis found no significant change in the number of tourism-generated employment (an average of 3% share of total employment), except for 2020 when almost 4,500 job losses were registered. Furthermore, seasonality as a limiting factor for tourism development was addressed. When investigating its level in the inbound tourism market for tourists coming from Albania, Bulgaria, and Serbia, it was found low seasonality. This means that tourists from these neighboring countries visit North Macedonia continuously around the year, thus presenting a good starting point for more aggressive regional tourism promotion. Finally, the chapter suggested a valid model that incorporates the structural break of the COVID-19 pandemic, which may serve for predicting international tourism demand in the post-COVID-19 period.

Generally, this chapter not only provided practical information for the tourism policymakers in North Macedonia but also produced conceptual patterns for identifying and establishing the broad regional concept for developing tourism crossover several countries in South and Mediterranean Europe. Hence, the chapter may assist destination marketers to acknowledge the main factors for the creation of a specific regional tourism product, along with the possibility to enhance the current modest tourism development of North Macedonia. Understanding the factors that affect decision-making for tourism growth in line with the regional economic environment is critical to predict future visitor flow patterns and tourism demand.

However, the generalization of the results of this chapter must be taken with caution, as several factors were identified as limitations, which on the other hand can serve as productive starting points for future work. First, the chapter was focused on investigating only a relatively small set of factors related to tourism development and economic growth. So, in some future work, it could be enhanced by introducing other indicators of investigation to better identify tourism impacts in the regional context. Second, the chapter addressed international tourism as a form of international trade in terms of the export of goods and services, so future work may focus on additional research on trade theory and tourism, at national and regional levels. As such, tourism may be treated as another economic factor enabling to developing of a system of analysis within the context of regional economics. Third, the chapter lacked a multidisciplinary approach to draw a more sophisticated conclusion.

Despite the limitations, the chapter gains in the significance findings since it highlights and suggests broad directions that tourism in North Macedonia must be guided forward to