THE LONG RUN RELATIONSHIP BETWEEN TOURISM AND ECONOMIC GROWTH IN WESTERN BALKAN COUNTRIES:

A PANEL CO-INTEGRATION ANALYSIS

By

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Thesis submitted for the degree of Master of Science

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Abstract

Nowadays, tourism is a fast-growing industry, and one of the most vital sectors that drive the economic growth. This thesis analyzes and tries to shed light in the contribution that tourism has on economy. The analysis is done for four Western Balkans countries, making a comparison between their tourisms, economies and tourism impact on GDP. The model is done for 14 years, for the period 2000-2014. Independent variables included are the number of foreign arrivals, visitor exports, foreign overnights in hotels and capital investment. While as a dependent variable stands the tourism contribution to GDP. Since the variables are not stationary, has been applied Panel Johansen Co-integration technique. After implementing the model, the results show that some of tourism independent variables such as visitor exports and capital investments influence the economic growth of the four countries, but in total we can say that there is no long run relationship between the tourism and economic growth of these countries.

Key Words: Tourism, Gross Domestic Product, Regression Model, Economic Growth, Western Balkan Countries

Abstrakt

Në ditët e sotme, turizmi është një industri që po zhvillohet shumë shpejt, dhe një ndër sektorët më të rëndësishëm që nxisin rritjen ekonomike. Ky studim analizon dhe hedh dritë në kontributin që turizmi jep në ekonomi. Analiza është bërë për 4 shtete të Ballkanit Perëndimor, Shqipëri, Bosnjë-Herzegovinë, Maqedoni dhe Mal i Zi, duke bërë një krahasim midis turizmit në këto shtete dhe ndikimit që ai ka në rritjen ekonomike. Modeli është kryer për 14 vite, duke filluar që nga viti 2000-2014. Variablat e pavarur janë: numri i turistëve të huaj për çdo vit, netë qëndrimi në hotel, investimi në kapital, eksportet e vizitorëve. Ndërkohë, si variabël i varur shërben ndikimi i turizmit ne Prodhimin e Brendshëm Bruto. Pas implementimit të modelit, rezultatet treguan që disa prej variablave të pavarura si eksportet e vizitorëve dhe investimet kapitale të turizmit ndikojnë në rritjen ekonomike afatgjatë të katër shteteve, por në total mund të themi që nuk ekziston një marrëdhënie afatgjatë midis turizmit dhe rritjes ekonomike të këtyre shteteve.

Fjalët Kyçe: Turizëm, Produkt i Brendshëm Bruto, Modeli i Regresionit, Rritje Ekonomike, Vendet e Ballkanit Perëndimor

Dedication

This thesis is dedicated to my family, they have given a wonderful example to me and have taught me to work hard for the things that I want to achieve.

Thank you for your endless love, encouragement and support!

Acknowledgments

I would like to sincerely thank my supervisor Assoc. Prof. Dr. Eglantina Hysa for her support and guidance throughout this study, for the valuable advices and dedication. I am grateful!

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This is only the beginning of my journey!

Declaration Statement

1. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than for which it is now submitted.

2. The program of advanced study of which this thesis is part has consisted of:
   i. Research Methods course during the studies
   ii. Examination of several thesis guides of particular universities both in Albania and abroad as well as a professional book on this subject.

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List of Abbreviations

ADF   :   Augmented Dickey-Fuller

BIH   :   Bosnia and Herzegovina

EU   :   European Union

GDP   :   Gross Domestic Product

IMF   :   International Monetary Fund

INSTAT :   Institution of Statistics

PP   :   Philips Peron

WTO   :   World Travel Organization

WTTC   :   World Travel and Tourism Council

List of Appendices

Appendix A: Tables of level results and first difference results. Histograms of the relationship between GDP and independent variables

"The decade in which we live will be remembered as the decade in which tourism has emerged as one of the most promising sectors and important human activity, contributing in economic growth and a better life".

T. Rifai

Chapter 1. Introduction

As the world is moving from the Millennium Development Goals, to Sustainable Development Goals, tourism plays an important key role on the global development. Nowadays tourism is being promoted as a driver of economic growth, and it influences also the environmental sustainability. It is one of the best sectors, whose progress is influencing the employment, gross domestic product (GDP), balance of payment, poverty reduction and distribution of different cultures all over the world. It has a big impact not only in the regional development but also in the social one. According to the World Tourism Organization (WTO), in the year 2014 the number of international tourists grew with 43 million people more compared with the year 2013. The organization has done a procrastination of about 3.8 % annual increase in worldwide tourism sector for the years 2010- 2020 and the real figures of 4.4 % growth, exceeded the forecast. The greatest growth was registered by United States with a percentage of 8% and Asia with a percentage of 5%, while Europe experienced a growth of 3%. In terms of receipts, Europe represents the biggest amount of the world tourism receipts (41%), and an increase from $17 billion to $509 billion. Unlike Central and Eastern Europe, in which tourist arrivals declined by 4%, in Mediterranean countries led growth.

The tourism industry has experienced major growth in recent years. As one of the most essential sectors of the economy, it is seen as a good investment alternative to benefit in the long term. Economic impacts of tourism have occupied an important place to study tourism in recent years. Coastal tourism or other types of it bring different effects on the development of a country, whether they are direct or indirect. Tourism itself is a collection of very special activities, including: transportation, accommodation, food, service, drinks, cultural entertainment, sports, trade fairs. All these activities come

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together in consumption and production of tourism, starting with hotel accommodation and continuing further with suppliers of resources that are needed for immediate consumption such as: fish, meat, dairy products, vegetables and beverages. Also, tourism has set relations with construction companies, manufacturers of equipment and uniforms, etc. The main aim of this study is to show whether tourism contributes to the economic growth of some of the Western Balkan countries. Tourism is a new phenomenon and it is not permanent, but it is sure that the lines of future for tourism development are linked to a new culture, capable of moving people toward the recovery of its roots and identity.

More and more, tourism is turning into the main supplier of the economy. It brings positive aspects in the economy in general as economic growth, increase in income, increase in employment and increase in foreign and domestic investments. The data shows that the number of tourists in our country is rising year after year.

There are models that explain the stages of tourism to facilitate the measurement of impacts that tourism brings in its entirety. One of them is the Butler model which is divided into 6 stages:

- The discovery stage (only a few number of tourists visit the country)
- Involvement stage (the local community gives limited opportunities for tourism)
- Development stage (Immediate increase in tourism)
- Consolidation stage (slow increase and the number of visitors keeps extending)
- Collapse stage (when the peek is reached, and economic problems begin)
- Opportunities for the future (what measures should be taken in the future)

Four Western Balkan Countries are taken into consideration in the study. This choice was since these countries have similar culture, development and are rich in history and natural assets. Historic heritage, wonderful and authentic nature, makes these countries some of the favorite tourist destinations. Every country has its peculiarities, and if they market all together, as a single name, the region becomes more competitive. This is because a large part of the tourists prefer to visit over two countries in which they fulfill their specific interests. Anyhow, there exist also economic differences between them. Some are more developed than others, and also they don't cooperate too much which each other because of the socio-political conflicts, related to the break-up of former Yugoslavia.

In the second chapter will be presented summary of what other authors and researchers have said and published related to this topic. In the third chapter it is going to be an overview of tourism in general in all countries, and then a short summary for each specific country. Furthermore, in the forth chapter, we will have a glimpse of economic growth in every specific country. The fifth chapter analysis the regression model, the relationship between GDP and tourism, comprised of 4 countries with variables taken for 14 years. The research question and the hypothesis raised in this study are:

Research question: Does tourism contribute positively to the economic growth in Western

Balkan Countries?

Hypothesis: Tourism contributes positively to the economic growth of these countries.

Chapter 2. Literature Review

Initially, before creating a new idea, we need to recognize an existing knowledge on the subject of research. For an effective research should be used existing knowledge and ideas used by others, with the aim to be learned as much from scientific work they have done. Main key words or expressions used in the research are: tourism, economic growth, the impact of tourism on economic growth, GDP, the number of tourists, overnights, tourism exports, etc. For this study have served three kinds of sources of literature, those primary taken directly from publications and reports of the Institute of Statistics, Central Banks, those secondary obtained largely from websites and government publications, and tertiary taken from indices, abstracts, citations, dictionaries, etc.

According to Smith and Eadington (1992), tourism is an economic force all over the world, because it changes the work structure, income allocation and living standards. In 1989 were generated 74 million jobs from tourism industry (World Tourism Organization, 1989).

Moreover, according to Marcouiller and Kim (2004), tourism contributes to national income, it creates a more equal income distribution, has a positive effect on the balance of payments, improves technology and the transfer of knowledge, encourages foreign investment, serves as a accelerant for economic development, and contributes to the increment of cultural interaction (Han & Fang, 1997).

Tourism is playing a crucial role in contributing to GDP of both developed or developing countries. It also improves the ability to reduce the disparities in the balance of payment (Nurul et. al., 2011).

There are some researches that support the theory of export-led economic growth, especially in developed countries. Theoretically, the export-led economic growth hypothesis is one of the evidences that tourism drives economic growth (Jordan Shan, 1998). This is true for some countries, such as Spain, where tourism occupied 5,9% of its GDP. But we aren't sure if this hypothesis is true also in Albania, where tourism revenues are much less.

Indeed, many findings showed that exports have a positive impact on economic growth; the greater the exports of a country, the greater the increase to economic growth.(Jordan Shan, 1998).

In their economic model, Hazari et. al. made an analysis in which proved the relationship between growth and capital accumulation, consumption per capita and trade.

On the other hand, there are evidences of a negative relationship between tourism and economic growth. Yildirim and Ocal (2004), showed that tourism stimulates economic growth in Turkey, but only in a short time. Under monopolistic circumstances, tourism might have a negative impact, and can decrease the welfare of a country (Hazari & Ng, 1993). Also in Korea, the hypothesis was rejected (Oh, 2005).

Undoubtedly there are evidences that reject our hypothesis, but in general it has been confirmed. Evidence for the positive impact of tourism on the economy, result from studies that have been made for many countries, where we can mention Spain, Caribbean countries, or Latin America. For the latter, the hypothesis is confirmed especially for the countries with low or middle-income (Martin et. al., 2004).

According to Narayan (2004), if expenditures in tourism of Fiji increased by 10%, GDP will increase by 0,5%, and national welfare will increase by 0,67%.

Another study done by Mello & Sousa (2012), shows that tourism as a higher impact on GDP for the North European countries, than in the south.

Tourism can be considered as a solution for increasing and improving regional development, if the elements of this sector are improved. This conclusion is reached from Proenca and Soukiazis (2008) when reviewing the impact of tourism on the increase of income per capita in Portugal.

Eugenio et. al. (2004) analyzed tourism-growing economic relationship over the years 1985-1998 for the countries of Latin America. They took in consideration variables such as tourists per capita, gross domestic investment as % of GDP, spending on education, political stability and quality of management of the political system. The first variable, brings a positive effect on economic growth in countries with middle and low income per capita. The results proved that these countries need infrastructure, development and education to attract tourists.

Meanwhile, results from Lanza and Pigliaru (1999) show that countries that have the appropriate natural resources and are directed towards the workforce, are more likely to grow faster and have priority in tourism, compared to the countries that are more oriented towards the manufacturing sector.

Many developing countries have begun to consider tourism as an integral part of their economic growth. It serves as a source of small financial funds, income growth, creating jobs and technical assistance.

In African countries, tourism has a significant contribution to revenue and production. It also affects tax revenues and foreign exchange earnings. (Kweka, Morrissey, & Blake, 2003).

Bahar and Gokovali (2006), made an analysis of tourism contribution to economic growth of Mediterranean Countries. They used a panel data approach for 14 countries from the years 1987-2002, where the dependent variable is growth rate of GDP and as an explanatory variable serves tourism receipts as a percentage of GDP. Regarding the results, the study leads to the confirmation of the hypothesis, so factors related to tourism are conductive to economic growth.

Durbarry (2004) run a time series model for Mauritius, an island in the Indian Ocean, for the period 1970-1999, where he proved the relationship between real GDP and physical capital, human capital, real tourism receipts per tourist and real exports. The results supported the hypothesis.

Another study that supported the hypothesis, was for Spain. An ADF test for co-integration and F test for Granger causality were used. Explanatory variables used were international tourism earnings and real effective exchange. (Balaguer and Jorda, 2002).

Chapter 3. Tourism Sector In Western Balkan Countries

3.1. General Overview

Western Balkan countries are rich in cultural and natural resources. One of the strongest competitive factors is that there are places with rich history and breathtaking nature. They have undergone profound economic changes in the last 15 years. After 1990, these countries began to reform their economies. They opened up to the world trade and oriented towards export, increased the role of private sector and relevant institutions built to support the market economy. Also the banking system was built, although with the help of foreign capital. The effects of these changes have brought an increase in the standard of living and income, strengthening the economy and macroeconomic stability. However, Balkan countries, again stand behind other countries members of the European Union, in terms of economic development and level of income. The revival of reform momentum is essential to improve the living standards.

A feature that have had these countries during the transition period was the economic system, known as the market socialism. Macedonia has increased the export of transport and machinery, while in Albania, Montenegro and Bosnia & Herzegovina exports of minerals predominate. An increase in real GDP, brings good chances for employment. As noted above, many countries have made changes by embracing a market economy. There are two major events that have given a strong influence: the entry of the euro currency in 1999 and the world financial crisis in 2007. Euro led to greater involvement in global capital markets, while the financial crisis interrupted the capital flows. After these changes, some of which are external and some internal, arise many questions among which the main one is: how stabilized are the macroeconomies of these countries after the financial crisis and what would be the right policies to be followed by after? Balkan economies embarked on a new chapter after the years of crisis and a priority for them was to achieve the macroeconomic stability. No doubt that the past 15 years have been better than 1990, inflation is reduced, investments are revamped, economic growth improved.

Many of the countries experienced economic recession: Albania by 28% in 1991, Serbia by 11% in 1999, Macedonia by 8% in 1993 (IMF, World Economic Outlook). Theoretically, according to Obstfeld (1996), the liberalization of capital would lead to more foreign flows, more investments and increase living standards. But practically

capital increases have resulted in a higher consumption than investments and in bad credit management (Kaminsky & Reinhart, 1999).

3.1.1. Factors that influence the demand for tourism

Exchange rate. Volatility of exchange rate plays an important role in determining the destination, as tourists tend to choose cheaper countries. A destination is cheaper when the currency of the host country is weaker compared with the currency used in the domestic country (Lickorish & Jenkins , 1997). When the volatility of the exchange rate is high, increases the risk to choose a specific destination, because from the moment in moment the exchange rate can change.

Reasons of travelling. Business trips are influenced by economic developments. But even in difficult economic times businesses continue to perform their journeys to prop up business. The increment of business activities that operate in a country led the demand to grow. On the other hand, travels of leisure are more flexible in terms that can be reduced in the recession period. In Albania, for example, leisure spending were 79,2% of GDP, while business travel spending were 20,8% (WTTC).

Prices of tourist packages. The price of a destination is the main factor that prevails in the volume of demand (Middleton, Fyall, & Morgan, 2009). Price will contribute to increasing the number of tourists or not. The increase of tourists will lead to increased revenue of accommodation units, generally hotels, thus resulting in the increase of income of the tourism sector.

Demographic factors. Demographic trends may change the demand for tourism. Demographic factors include age, income level, family size, nationality etc. Tourism is a luxury good, therefore the increase in income individuals will increase the demand for this good. On the other hand, the increase in the average age of the population increases the demand for tourism, as this is the group that has more probability to go on holiday. These people have higher incomes, and consequently will spend more on luxury goods or services.

Promotion. A promotional strategy means to apply the integrated communication programs. The objectives are to promote the interests of customers, to encourage them to

search on the internet, to go to the nearer agencies to seek information. Also competitions between different destinations are becoming increasingly strong. The better the promotion of a country and the better its position among competitors, the higher will be the increase in demand for that country.

Seasonality. Seasonality is characteristic of markets indicating that the request can fluctuate depending on the seasons. Market diversification strategy is good to reduce seasonality. Tourism organizations of Cyprus, understood the problems related to seasonality in their country and found new ways to avoid this problem. Agritourism, offers tourists to experience the real Cyprus outside the peak season and also be in the company of local residents. Also, offer to visit the country during the holiday season, increased demand for visit this place (KPMG, 2015). The 5 Western Balkan Countries that we have taken into analysis, also suffer from the problem of seasonality, where the influx of tourists is greater in the summer. Albania has begun to combat this problem by promoting mountain tourism. Shkodra district is very frequented, because of the mountain climate, especially the areas of Thethi and Razma.

3.1.2. Factors that influence the supply for tourism

Accommodation. To have a tourism development we should pay great attention to the accommodation sector. Accommodation is the best form to connect vacationers with their chosen destination. Its importance is related to the fact that most of the available budget is spent on accommodation for holidays. It is noted that countries with large accommodation capacities also have higher incomes because the supply for vacationers is higher.

Investments in infrastructure. Infrastructure is very important for the development of tourism. It provides an easier distribution of tourism services. The fact that journeys are made by air, land or sea has created the necessity to build airports, ports, railways, etc., to make travel easier and in a shorter time (Dwyer & Forsyth, 2006). Improvement of road infrastructure, airports, placement of road signs, reduces costs in that destination. Reduced costs are associated with the growth of tourist offer of the country.

Government. The government has the right and obligation to create political stability and ensure the right legal framework for tourism. It provides essential services for a much

more profitable tourist season. It can carry out deals with other governments as regards the free movement of individuals in another country. There are several ways how the government can raise the offer for tourism, for example by reducing taxes and entry at the border, VAT reduction etc, (Elliott, 1997). So, government intervention through its fiscal policy, will reduce costs by increasing the offer for tourism.

Employment in the tourism sector. Tourism is one of the industries that generates more jobs. This sector creates more opportunities in the formal or informal sectors. Qualified employees and their satisfaction in the work, affects the growth and development of a business. From the graphic before we see that in 2015 the total contribution of travel and tourism to employment in Albania was 180,000 jobs; in 2016 it was 185,000 and for the year 2026 it is forecasted to be 265,000 jobs or 25,4% of total employment.

Attractions. To see the impact that attractions have in tourist activities, they are divided in two categories of tourism researchers: a) natural resources, which are provided by nature and used by tourists; b) man-made sources, which are attractions that are created deliberately to increase the demand for tourism in certain countries. The latter, increases tourist expenditure, increasing in this way, the offer for tourism (Sharma, 2004).

3.2. Tourism in Albania

Albania is a country which is developing its tourism sector over the last years. It has good geographical position, a virgin nature, a suitable climate for summer beach tourism as well as mountain tourism. According to Albania.al there is an increase in the number of foreign arrivals in our country in 2014, with an increase of 26.6 % compared with the previous year. The visitors who entered in Albania daily were 54,329 during the first quarter of the year 2014. In the same quarter, the arrivals of tourists by land reached a percentage of 84.4%, while those who came by air or sea comprised 12.1% and 3.2% respectively.

In the recent years, Albania is becoming more eager to be promoted in the world. Albania will be recognized as an attractive and welcoming tourist destination in Europe, based on the sustainable use of natural potentials, cultural and historical easily accessible from international markets. Tourists that visited Albania were very few until the '90s, during

the communist period. Albanians also rarely trod on foreign lands, except their diplomatic or medical visits. But when the country began to open up to the world and other cultures, things changed. Specifically, it was the year 1999 that changed this sector. The war in Kosovo, led the focus of global medias on our country. On the other hand the income from tourism was increased, because of the humanitarian aid that foreign countries brought in Albania. According to the Bank of Albania, revenues from tourism increased from 67 million in 1994, to 522 million in 2003. The National Agency of Tourism is an initial help for the tourists; it ensures potential visitors to find basic information about the country.

But on the other hand, in Albania is noticed also a negative fact such as seasonality, the largest number of visitors in our country is during July and August. This is characteristic of all years. Less frequented months to make holidays are those of January and February. Albania has 1350 villages in which live approximately one million people. This fact represents a possibility for development of rural tourism, especially agritourism, ecotourism, nature tourism, etc. It is defined and as one of the main objectives of government policy aimed, encouraging and supporting the creation of structures of traditional rural destination. In remote areas, investments are directed towards improving the infrastructure enabling the economic development of these communities.

The motivation for touristic travels is very complex and constantly changing in this competitive market. Measuring the impact of tourism on the economy is more complicated than simply calculating the level of influence that comes from tourist spending.

Table 1: Nights of stay of foreign and Albanians citizens in hotels (in thousand)

YEARS	1995	2000	2005	2010	2014
ALBANIANS	123	228	214	425	199
FOREIGNER	88	98	130	185	260
TOTAL	211	326	344	610	459

Source: INSTAT, www.instat.gov.al

Table 2: Inflows of foreign citizens (in thousand)

YEARS	1995	2000	2005	2010	2014
AIR	45	72	128	246	337
SEA	83	79	130	216	198
EARTH	176	166	490	1,956	3,138
TOTAL	*304*	*317*	*748*	*2,418*	*3,673*

Source: INSTAT, www.instat.gov.al

The information presented in the tables verifies the increase of the inflows, especially by foreign citizens in our country. Observing this increase from 88,000 in 1995 and 260,000 registered in 2014 we understand that the role of tourism can be decisive in the economic development of the country. Inflows of foreign nationals regardless of the way of transportation emphasizes the need for commitment from both the state and private institutions for the improvement and utilization of tourism, seeing it as a potential of economic development.

3.3. Tourism in Bosnia & Herzegovina

Bosnia and Herzegovina is an interesting tourist destination because of its natural beauties, geographical position, historical and cultural heritage and good climate. As well as in the other four Western Balkan Countries, in the last 20 years tourism in Bosnia and Herzegovina, have had positive and negative influences. About the latter can be mentioned elements such as: transition, war for independence, refugees, etc. Between the period of war, in the years 1992-1995 the economy and infrastructure were damaged and many of tourist attractions were destroyed. But fortunately, they have been rebuilt and reconstructed. So, the challenge for BiH has been hard, because it had the charge to build a new infrastructure and also to overcome from the transition period of socialism, to a liberal capitalist market. Due to the economic disorders in those years, there was a decrease in the flow of tourists, but things changed after 1995. It is a fact that the demand of tourism has declined in this country, if we make a comparison between and after the war. Although, after the year 2012, the tourism sector has taken the right place in the market, there are still cities with a low flow of tourists. According to Statistical Yearbook (2014), if we stress the biggest arrivals of tourists by countries, we see that in the year

2013 the number of tourists arrived in Bosnia from Austria was 12.757, from Croatia it was 67.182 and from Turkey came 52.340 people. Some of the weaknesses of tourism in BiH are: the noncompliance of the domestic legislation with the EU Acquis, low infrastructure, low quality of service, insufficient promotion, insufficient use of information technologies, seasonality, etc. Some strategies that can be used to improve this industry, according to the Strategy for Tourism Development in BiH, are:

- Political stability and security of environment
- Better economic trends
- Development of technology
- Good environmental conditions

According to Causevic and Lynch (2012), one important factor that influenced negatively in economic growth and in including tourism as a strategy of the government, was the complex structure of the latter. Despite everything, in the last 15 years, the trend of the number of tourist arrivals in BiH is upward. Nowadays, the arrivals of tourists are more dynamic.

According the Institute of Statistics, in 2009 the total number of tourist arrivals was 333.000, from which 122.000 were domestic tourists and 211.000 were foreign ones.

Table 3: Tourist arrivals for the years 2009-2013

TOURIST ARRIVALS (IN 000) YEARS 2009-2013			
Years	*Domestic*	*Foreign*	*Total*
2009	122	211	333
2010	142	265	407
2011	146	290	436
2012	164	332	496
2013	166	411	577

Source: Statistical Yearbook of BiH, 2014

Table 4: Tourist nights for the years 2009-2013

TOURIST NIGHTS (IN 000) YEARS 2009-2013			
Years	Domestic	Foreign	Total
2009	231	453	684
2010	262	557	819
2011	270	600	870
2012	320	678	998
2013	309	826	1.135

Source: Statistical Yearbook of BiH, 2014

In respect with the tourist nights spent in Bosnia, it is clear that in 2009 there were 453.000 nights spent by foreign visitors, and in 2013 there were 826 nights. So, the number is almost doubled, in a 5 year period. As we see from the figures, both the arrivals and the night spent, have been growing, as the years pass. These figures are promising and good indicators for the future of tourism industry in BiH.

On the other hand, it is known that tourism influences in raising the number of employees all over the country, because it creates new jobs. According to Institute of Statistics, the number of people employed on restaurants, bars and hotels was 26.649 in 2006 and 34.072 in 2010. So, in a period of 4 years the difference fluctuates with an average of 7000 employees. According to an estimation done by the World Tourism Organization, BiH will be the third ranked by the tourism growth rate in the world, between the years 1995-2020.

Figure 1: Factors that influence in tourism development
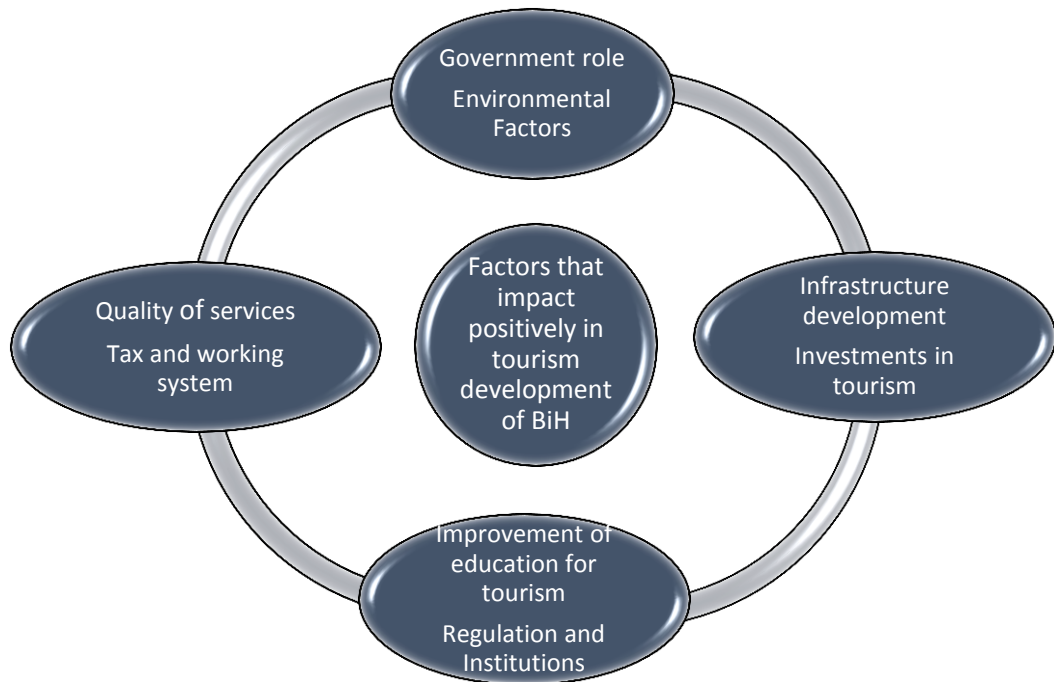
Source: Adapted by the author

Nurkovic (2009) has done an evaluation about the influence of tourism on different sectors in Bosnia and Herzegovina. From 19 activities, only railway transportation had the lowest grade equal to 1, which means that this sector is not affected by tourism development. Activities with the highest grade were agriculture, telecommunications, production of foods and drinks, accommodation activities etc.

3.4. Tourism in Macedonia

Macedonia, like the other countries of Western Balkans, is characterized of cultural and natural attractions. The number of tourist arrivals in 2014, was 735.650 people. If we make a comparison for the last 15 years, in the year 2000 there have been 632.523 foreign tourists and in the year 2015 there were 816.067 visitors. In total we notice an increase by approximately 29%. The trend has been increasing over years. In 2012, among foreign tourists, the country from which came most visitors was Turkey with 50.406 arrivals, followed by Greece with 43.976 arrivals and Serbia with 36.530 tourists. Small countries

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are more interested in profiting from the benefits that tourism brings. In 2009 was prepared a National Tourism Strategy of Macedonia, in which was stressed the idea of becoming a tourist destination in Europe. ¾ of the things proposed in the strategy are totally of partly implemented. Macedonia, indeed, increased the number of arrivals in 2013 but it didn't reach the targeted figure. The target was to reach 766.000 tourists, while in fact the number was 702.000 total arrivals.

Figure 2: Predicted arrivals for the year 2013, Macedonia
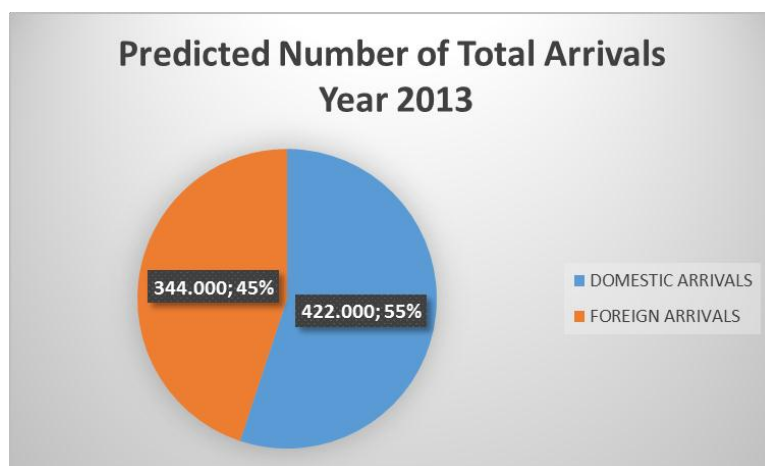
Source: National Tourism Strategy, Republic of Macedonia

Figure 3: Real number of arrivals in Macedonia, 2013
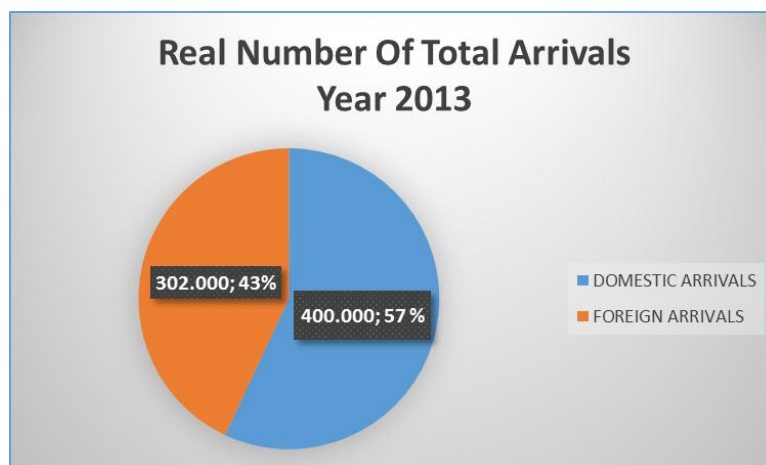
Source: National Tourism Strategy, Republic of Macedonia

On the other hand, overnights of 2013 were predicted to be 2.779.000, but Macedonia didn't reach this number too, because of the stagnation from the year 2008-2013, and the decreasing overnights by domestic people.

Figure 4: Predicted Overnights in 2013
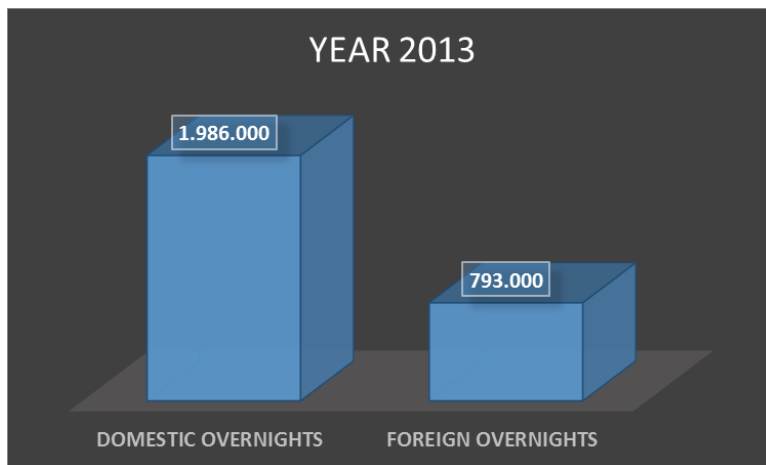
Source: National Tourism Strategy, Republic of Macedonia

Figure 5: Real overnights in 2013
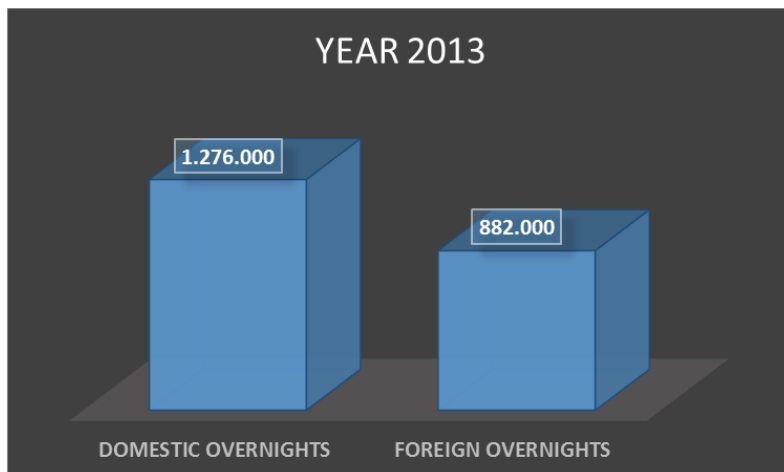
Source: National Tourism Strategy, Republic of Macedonia

Another unit that measures tourism and travel sustainable development of a country is the "Travel and Tourism Competitiveness Index". Regarding the year 2015, Macedonia's index was equal to 3.5, or it stands in the 82th position, out of 141 countries.   It reached the best results in the field of "business environment", but the worst in "natural resources". To conclude, it is seen that Macedonia, although has an increase with 8% every year in the number of international arrivals, still it stands in the last position in the region.

Figure 6 : Foreign Tourist Arrivals
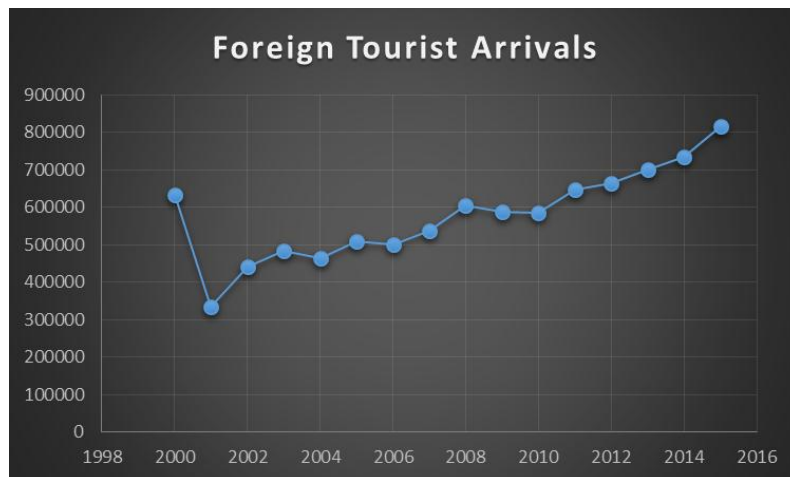
Source: Institute of Statistics, Republic of Macedonia

3.5. Tourism in Montenegro

Montenegro, is a small country with a beautiful architecture and a rich culture. It offers a suitable nature for all kinds of tourism, and it is turned in one of the preferred tourist destination in Balkan. The country is even considered as a fast-growing tourist destination. In the year 2008, more than 1 million people visited it, accounting 767,9 million euro from tourism receipts. While in 2014, the number of arrivals went to 1.5 million. The majority part of economic activities support the development of tourism in Montenegro. Its development is considered a priority from all industries in the country. It is improving the quality of hotels, infrastructure and services. But, beside these good indicators, the state lacks a qualified personnel and financial resources. Overnight stays have declined from 11 million in the year 1980 to 5 million in nowadays. The country is small and easily permeable by car. Therefore the focus should be placed on facilitating the transport, speed and lower its cost. Country has two airports, but they suffer from a lack of modernization. So the worst problems are the lack of a suitable infrastructure and water, or electricity supply.

Figure 7: Foreign Arrivals in Montenegro, 2008-2015
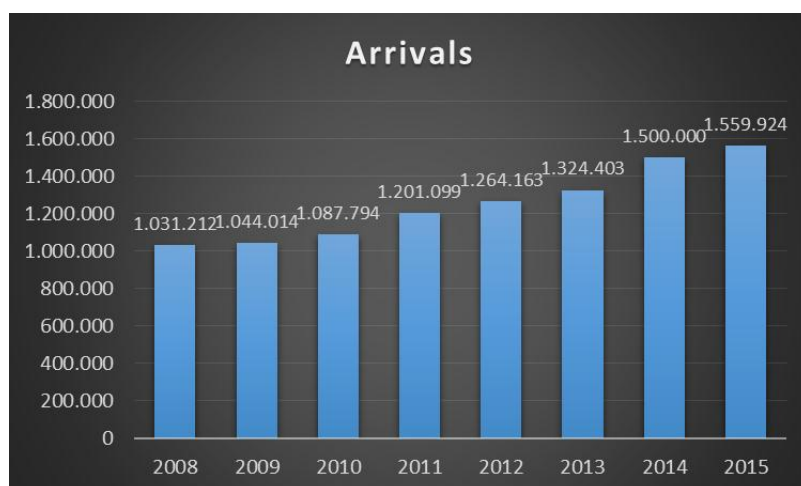
Source: Institution of Statistics, Montenegro

The number of foreign tourists in 2000 was 108.808 people and in 2015 it was 1.559.924 tourists. From the evidences of Institute of Statistics of Macedonia, we see that Russia is the country from which most tourists came in Montenegro in 2014 with 318.375 arrivals.

CHAPTER 4. ECONOMIC GROWTH OF WESTERN BALKAN COUNTRIES

By definition, economic growth is the increase of the ability of an economy to produce goods and services compared from one period of time to another. To calculate the economic growth for one year, people use GDP or GNP per capita because it takes into account the population of a country. These are the most commonly used measures of economic growth. Western Balkan countries needed a long time to recover from socialism - democracy transformation. The transition years have been long and difficult, especially for our country. However, things took their natural flow and was created a market economy, many state businesses were privatized, prices were liberalized, etc.

4.1. Economic growth in Albania

Tourism plays a major role in the Albanian economy contributing to improving the quality of life and creating an attractive environment for investment. There remains a question if tourism positively affects economic growth, or is the latter that has led to the development of tourism. According to the World Travel and Tourism Council (WTTC), the tourism sector in our country is taking a key role in the contribution that it gives in GDP with 81.4 billion, which corresponds to approximately 6.2% of its total GDP. Forecasts for the future are very positive as it is believed that they will grow up by 5,4% annually. On the other hand, experts of WTTC have analyzed the indicator of direct employment in the travel and tourism sector, which, according to them, from 51.000 jobs (5.5% of total employment), which occupied the last year, this year it is expected to have a growth of 4.3% (World Travel and Tourism Council, 2014).

From these figures, it seems that Albania is a country well positioned among 183 countries in the world examined by the WTTC, in terms of the real contribution that this sector is providing in GDP and other indicators important to the local economy, such as employment, investment etc. Investments made in the Albanian tourism industry, in the future are projected to be increased significantly. According to WTTC, investments will mark an average rate increase of 4.6% over the last decade reaching a total figure of 35.4 billion in 2022.

4.2. Economic growth in Bosnia & Herzegovina

The economy of BiH is mostly based in consumption rather than production. Exports comprise only 30% of GDP of the country, which means a low indicator of competitiveness. This is related to an ineffective infrastructure and poor business climate. Gross domestic product (GDP) is increased over years in this country. According to IMF, GDP per capita in the year 2013 was 8,3. Foreign direct investments in 2011, were €313 million, from which the main investor countries were Austria, Serbia and Croatia. 37,7% of these investments are concentrated in manufacturing and 21% in banking sector. Tourism has been helping the economy, given that, BiH offers winter skiing destinations and also summer tourism. Tourist arrivals have grown around 24% in a period of 5 years, from 1995 to 2000. The influence that tourism has on economic growth includes the activation of natural, human and material resources. It has also external effects, as stated before in the study, such as the influence in food and beverage industry, infrastructure, investments, rural development, etc.

4.3. Economic growth in Macedonia

After the division of Yugoslavia in 1991, Macedonia's economy fell. Some of the reasons that affected in its poor economy until 1996, were the shortage of infrastructure, Greek embargo and United Nations sanctions on Macedonia's market. The economic fluctuations were mitigated by foreign aid and remittances. In the year 2000, country's reserves were boosted by privatization. Regarding the nature of economy, Macedonia has always been oriented toward agriculture. Later, in the period of Ottoman Empire, it was responsible for creating big amounts of outputs of clothes and other goods for them. Nominal GDP in 2015 was $12 billion, while its growth in the same year was 3,2%. Macedonia's GDP rose until 2008, with a rate of 6%, but during the global crisis its economy shrank. Anyhow, the crisis did not affect too much the economy of the country, since it had a banking system with strong rules. Today, Macedonia keeps a low debt-to-GDP ratio and its investments are vitalized by countries like Germany, Austria, France, etc. In conclusion, from the country less developed in the Republic of Yugoslavia, Macedonia is recovered and is converted in the country we see today, with more foreign investments, a higher employment rate and many business and fiscal reforms. Despite the

development of the recent years, its official unemployment rate stands at 31,2%, but the figure may not be completely true, due to the people who work in the grey market. On the eve of global economic collapse, also Macedonia experienced a decrease in foreign direct investments and a greater trade deficit. It remains its macroeconomic stability by a policy that keeps its domestic currency (denar) pegged with euro.

4.4. Economic growth in Montenegro

While the economy of Macedonia is production-based, the economy of Montenegro is service-based. It is also recovering from the separation of the Republic of Yugoslavia and the wars. Montenegro aims to become an elite tourist destination, and like the other three countries, to enter in the European Union. One fact worth mentioning is that the country has had a boom in real estates, in the year 2005-2006, from rich people buying real estates in the coast of Montenegro. Regarding the foreign investments, in 2008, Montenegro has been the country that received more foreign investment per capita than any other country of Europe. However, the recession of the recent years has damaged one of the biggest single contributor to GDP, like Podgorica Aluminium Plant. In 2012, for example, exports were 14,6% less than the previous year. The most important partners of exports were Serbia, Croatia, Hungary and Bosnia. But, imports were higher than the same period of the previous year, with an increase of 2,6%. On the other hand, GDP in the year 2013 has been $7,4 billion, where as stated above, the sector of services comprises around 87,9%, agriculture 0,8% and industry 11,3% (World Bank, 2011).

CHAPTER 5. DATA AND METHODOLOGY. A PANEL JOHANSEN CO-INTEGRATION TEST

5.1. Panel Data

The data in this study consist of yearly tourism contribution to GDP obtained from WTTC and yearly data for overnights in hotels, number of foreign arrivals, capital investment and visitor exports obtained from the respective Institute of Statistics and WTTC. Respectively, the first will be the dependent variable, and the other fourth variables will be the explanatory ones, or independent variables. In the model are included 4 countries, which are part of Western Balkan, such as: Albania, Bosnia & Herzegovina, Macedonia and Montenegro. Part of the region are also Serbia and Kosovo, but due to the lack of data for all variables and years for this two countries, they are excluded from the study. Data is conducted for 14 years, from the year 2000 to 2014, in the statistical program E-views. All tests are performed by using E-views statistical program.

Before analyzing the statistical model, it is necessary to explain the definitions of variables used in the model:

Travel and Tourism contribution to GDP includes the total spending on travel and tourism by residents and nonresidents for leisure or business purposes.

Capital Investment includes capital investment spending by all industries directly involved in travel and tourism. It includes also an investment spending in new assets such as transport equipments, restaurant facilities, etc.

Visitor exports are money spent by foreign visitors to a country, for business or leisure trips. This includes spending on transport, but excludes spending on education.

Number of foreign arrivals is the number of tourists that travel to a destination country, other than their usual residence.

Nights spent in hotel indicates the number of nights that foreign tourists spend in a country's hotels.

The regression equation used in the model is:

CGDP = α + β$_1$*hotel + β$_2$*arrivals + β$_3$* capital investment + β$_4$* visitor exports + ε

Where CGDP is the yearly tourism contribution to GDP

α is the intercept and equals the constant in equation

β$_1$, β$_2$, β$_3$, β$_4$ are the values for the slope coefficients

ε is the error term

First of all, after we run the regression model, we should detect if the time series are stationary or non-stationary. In other words, we should observe whether the variables have unit root or not. If the statistical model has an unit root, it can cause problems and the regression model might show a significant relationship between variables, when in fact it is not true. When the time series are non-stationary, we can identify the problem of spurious regression. To check for stationarity, two hypothesis should be raised:

Null hypothesis: The time series has unit root (non-stationary)

Alternative hypothesis: The time series has not unit root (stationary)

As far as we know, it means that the mean, variance and autocorrelation remain constant in the long run period, in a stationary time series. If it is not stationary we can transform it to stationary by using the lag one difference:

Yi = Zi – Z$_{i-1}$

In the model are used two tests: ADF test and Philips Peron Test. The first, is used to understand if a time series model, has unit root. Philips Peron is similar to ADF test but it ignores serial correlations.

The graphics below present the trend of all the variables for 14 years, for each country taken into consideration. The first graphic shows the tourism contribution to GDP trend, which goes upward until the year 2010 and then it has a decrease in the values of CGDP. The decrease reached its peak in the year 2012 until the trend goes upward again in 2013.

In the scatter diagram we see that when the values of GDP go up, also arrivals and nights spent in hotel increase; while capital investment and visitor exports do not change when GDP changes. Regarding the histograms, we observe the values of Skewness and Kurtosis. Skewness measures the symmetry of the distribution and its values should be

near zero. Kurtosis measures if the data are heavy tailed or light tailed, and its values in a normal distribution should be near three. Only the histogram of CGDP and visitor exports show normal distribution of the data.

If we observe the results of the table of correlation, we see that arrivals have the biggest correlation with visitor exports, while nights spent in hotel correlate more with capital investment. On the other hand, visitor exports have the greatest correlation with the variable of GDP.

Figure 8: Graphics of the trend of each variable for all countries
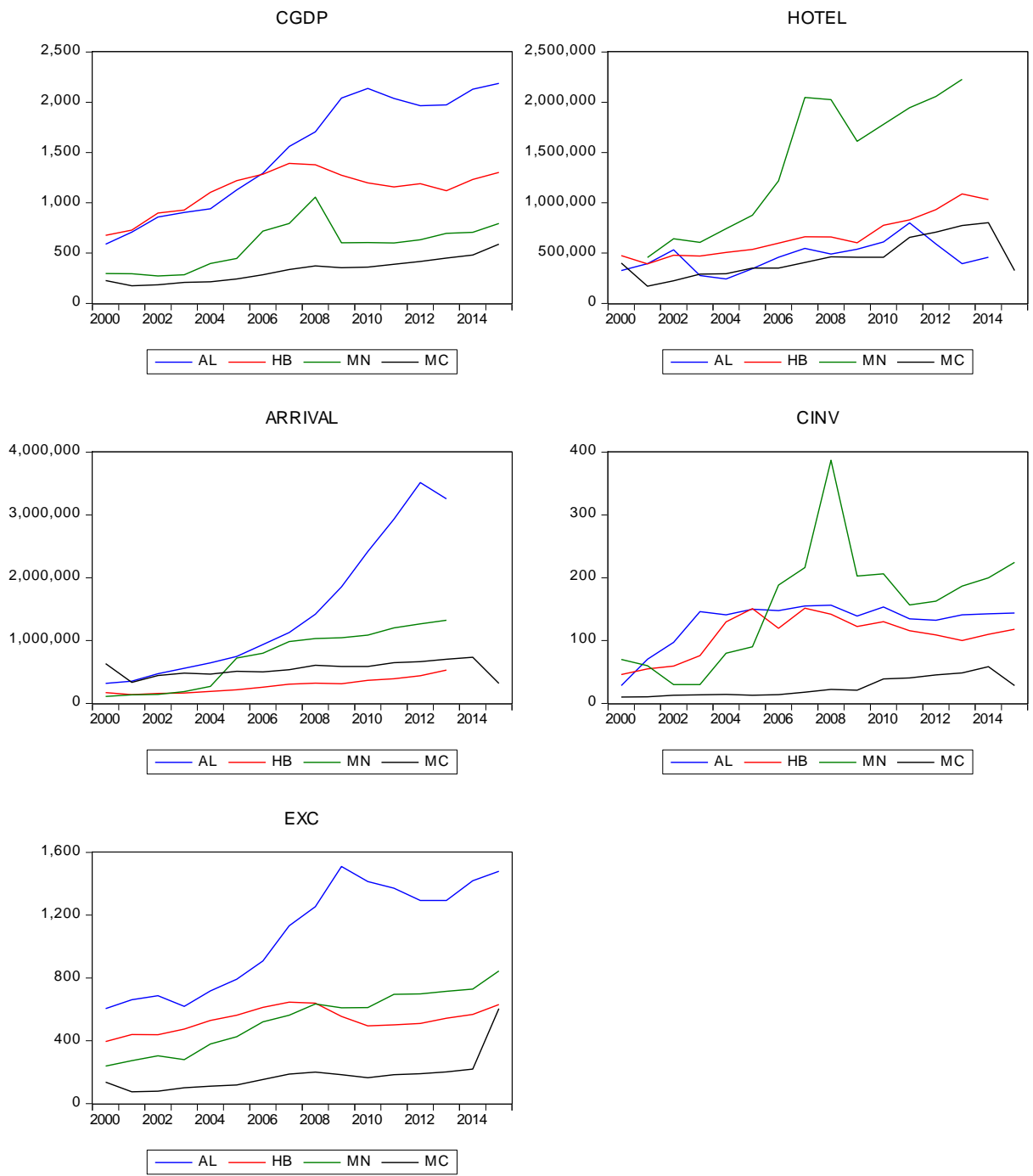
Figure 9: Scatter Diagram, arrivals, capital investment, nights spent in hotel and visitor exports
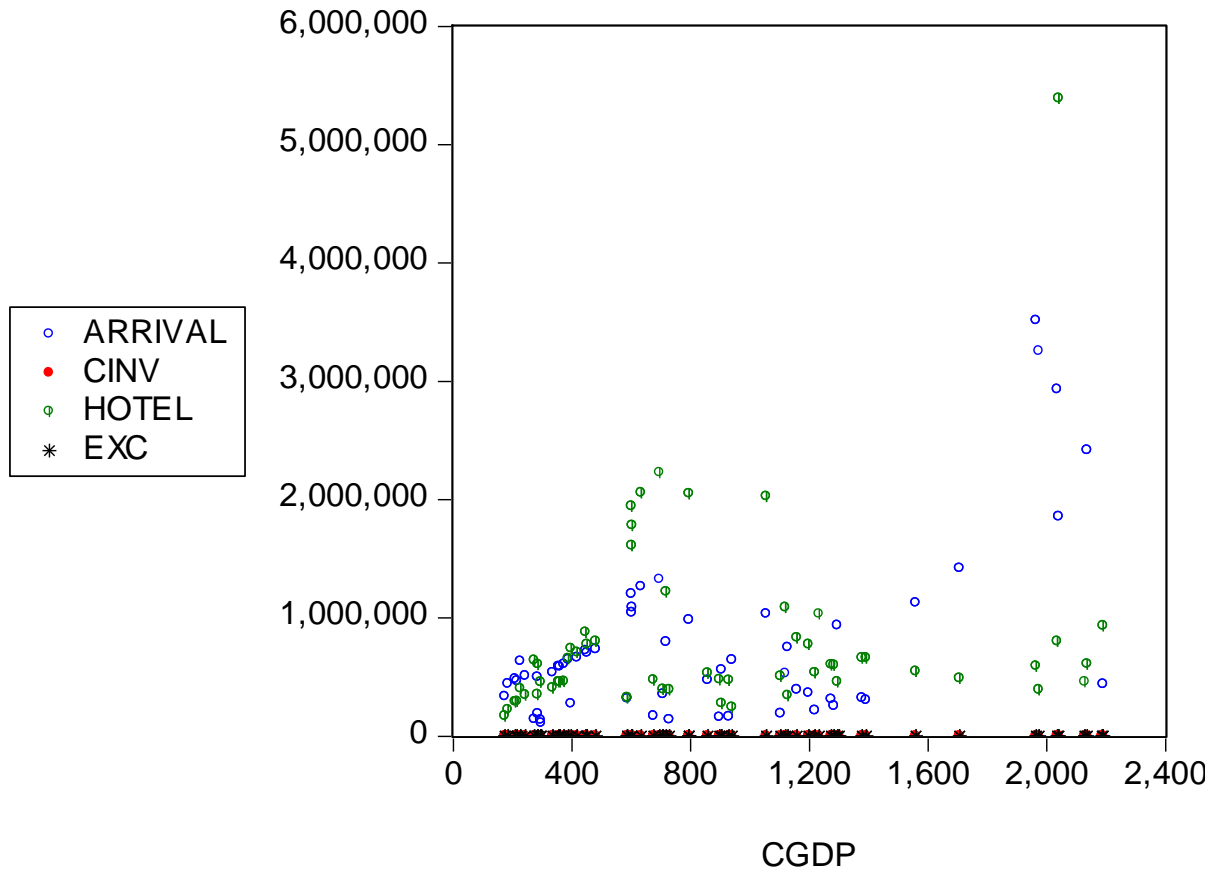
5.2. Panel Unit Root Test

In the appendix, there are the results of Panel Unit Root test for all variables. If we observe the level results, the first test is from Levin, Lin and Chu, where the null hypothesis says that the variables has a unit root. To verify that, the probability should be seen. If it is less than 5%, it means that the null hypothesis is rejected. If we observe the other tests, such as ADF Fisher Chi Square, or PP Fisher Chi Square, we also see that the probabilities are greater than the critical value of 5%. In conclusion, the variable of "arrival", at level, has a unit root. If most of the methods say that the particular variable has unit root, that variable indeed has unit root. The same observation should be done for the other variables.

If it is seen that if the majority of the tests show non-stationarity of variables, the first difference level should be conducted. After running the first difference results, we see that

the null hypothesis is rejected, the first difference of the variables are stationary, or do not have unit root. So, we converted the data in stationary, after the first difference.

Table 5: Summarized table of level results and first difference results

VARIABLES	ADF - Fisher Chi-square		PP - Fisher Chi-square	
	Level	1st Difference	Level	1st Difference
CGDP	0.5653	0.4509	0.7080	0.0094*
ARRIVAL	0.6105	0.0486*	0.8350	0.0000*
CINV	0.0535	0.1710	0.0019*	0.0000*
EXC	0.9445	0.4762	0.9629	0.0449*
HOTEL	0.6959	0.0167*	0.8174	0.0002*

*Significant at 5% level

Source: Adapted by the author

5.3. Panel Johansen Co-integration Test

Before running the co-integration model, a condition must be completed: the variables at the beginning should be non-stationary, and after the first difference, they should convert in stationary. Given that, this condition is completed in our model, we run the co-integration test. We select the Pedroni test, and see the results for the assumption when the test has a deterministic intercept and trend. There are 7 tests starting from Panel v-Statistic until Group ADF-Statistic. We observe that 5 from 11 probabilities of outcomes, are smaller than 5%, so we reject the alternative hypothesis, there is no co-integration between the variables at the 5% significance level. To conclude, Johansen test showed that tourism contribution to GDP, arrivals, night spent in hotels, visitor exports and capital investment are not co-integrated with each other , they don't have a long run relationship.

Table 6: Johansen Co-integration Test

Pedroni Residual Cointegration Test

Series: GCGDP GHOTEL GARRIVAL GCINV GEXC
Date: 06/08/16   Time: 15:51
Sample: 2000 2015
Included observations: 64
Cross-sections included: 4
Null Hypothesis: No cointegration
Trend assumption: Deterministic intercept and trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-2.624342	0.9957	-2.790279	0.9974
Panel rho-Statistic	1.807001	0.9646	1.804973	0.9645
Panel PP-Statistic	-9.524025	0.0000*	-8.611111	0.0000*
Panel ADF-Statistic	-1.593379	0.0555	-1.794475	0.0364*

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	2.651921	0.9960
Group PP-Statistic	-11.40393	0.0000*
Group ADF-Statistic	-2.161745	0.0153*

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
1	-0.382	17.68986	3.110459	11.00	12
2	-0.439	15.95974	2.288312	11.00	12
3	-0.404	101.7915	16.71798	10.00	11
4	0.443	14.79190	15.40349	1.00	14

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
1	-1.010	13.95169	1	--	11
2	-1.211	8.913010	1	--	11
3	-0.937	90.71063	1	--	10
4	0.333	11.00475	1	--	13

*Significant at 5% level

Table 7: Variables Co-integrated In Long Run, growth rate of the variables

Dependent Variable: GCGDP

Method: Panel Least Squares

Date: 06/08/16   Time: 11:10

Sample (adjusted): 2001 2015

Periods included: 15

Cross-sections included: 4

Total panel (unbalanced) observations: 53

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.902674	2.936715	0.647892	0.5201
GARRIVAL	0.069428	0.091823	0.756102	0.4533
GCINV	0.217035	0.059727	3.633800	0.0007*
GHOTEL	0.016634	0.017568	0.946863	0.3485
GEXC	0.256974	0.092393	2.781316	0.0077*

R-squared	0.313883	Mean dependent var	8.749325
Adjusted R-squared	0.256707	S.D. dependent var	20.10457
S.E. of regression	17.33305	Akaike info criterion	8.632695
Sum squared resid	14420.85	Schwarz criterion	8.818572
Log likelihood	-223.7664	Hannan-Quinn criter.	8.704174
F-statistic	5.489738	Durbin-Watson stat	2.633962
Prob(F-statistic)	0.001011		

*Significant at 5% level

Estimation Equation:

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GCGDP = C(1) + C(2)*GARRIVAL + C(3)*GCINV + C(4)*GHOTEL + C(5)*GEXC

Substituted Coefficients

=========================

GCGDP = 1.9026740657 + 0.0694278997837*GARRIVAL + 0.217034776913*GCINV

+ 0.0166342659882*GHOTEL + 0.256974452106*GEXC

Table 8: Variables co-integrated in long run, growth rate of one year before

Dependent Variable: GCGDP

Method: Panel Least Squares

Date: 06/08/16   Time: 11:16

Sample (adjusted): 2002 2015

Periods included: 14

Cross-sections included: 4

Total panel (unbalanced) observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.463266	3.278928	1.056219	0.2974
GARRIVAL	0.027838	0.114328	0.243495	0.8089
GCINV	0.219958	0.073005	3.012927	0.0045*
GHOTEL	0.014940	0.017063	0.875597	0.3866
GEXC	0.210060	0.098446	2.133761	0.0392*
GCGDP(-1)	-0.497272	0.156538	-3.176678	0.0029*
GARRIVAL(-1)	0.121209	0.104464	1.160296	0.2530
GCINV(-1)	0.039439	0.074216	0.531405	0.5982
GHOTEL(-1)	1.05E-05	0.017685	0.000591	0.9995
GEXC(-1)	0.425016	0.221360	1.920022	0.0622[*]

R-squared	0.463924	Mean dependent var	9.501748
Adjusted R-squared	0.340215	S.D. dependent var	20.20468
S.E. of regression	16.41169	Akaike info criterion	8.613769
Sum squared resid	10504.40	Schwarz criterion	8.999855
Log likelihood	-201.0373	Hannan-Quinn criter.	8.760250
F-statistic	3.750104	Durbin-Watson stat	2.105997
Prob(F-statistic)	0.001798		

*Significant at 5% level

Estimation Equation:

=========================

GCGDP = C(1) + C(2)*GARRIVAL + C(3)*GCINV + C(4)*GHOTEL + C(5)*GEXC + C(6)*GCGDP(-1) + C(7)*GARRIVAL(-1) + C(8)*GCINV(-1) + C(9)*GHOTEL(-1) + C(10)*GEXC(-1)

Substituted Coefficients:

=========================

GCGDP = 3.46326559319 + 0.0278383663144*GARRIVAL + 0.219958219876*GCINV + 0.0149399072855*GHOTEL + 0.210059981242*GEXC - 0.497272153285*GCGDP(-1) + 0.121209258224*GARRIVAL(-1) + 0.0394389587686*GCINV(-1) + 1.04567776036e-05*GHOTEL(-1) + 0.425015687385*GEXC(-1)

After doing the growth rate of the variables, we see that only 4 of the variables impact in GDP, because their values are less than 5%. The new equations and the coefficient are shown above. The values that are significant are growth rate of capital investment, growth rate of exports, growth rate of CGDP one year before, and growth rate of exports one year before.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

Tourism is an essential sector, and it occupies an important place in the economy. It drives the economic growth by influencing in employment, balance of payment, other activities related to it, such as accommodation, bars and restaurants, etc.

This study attempts to shed light on the tourism sector in four of the Western Balkan countries, with similar development stage and culture.

The research question raised is whether tourism contributes positively in the economic growth of four countries taken into consideration.

From the studies done by other researchers, there exist positive and negative attitudes toward this hypothesis. In countries such as Spain, Caribbean or Latin America, the hypothesis stands. Therefore, tourism is a driver of the economic growth in those countries. While, in countries such as Turkey or Korea, the hypothesis is rejected.

These countries had difficulties in their development as they were all communist countries. After '90 they began to reform their economies, to privatize their businesses and develop a market economy. Consequently, their standard of living rose. However, they stand behind the European Union countries, in terms of development.

The introduction of the euro currency in 1999, opened the roads to other countries, while the world economic crisis of 2008, reduced their economies.

Despite all the problems, the last 25 years, after 1990, the four countries were more stable in terms of macroeconomic factors such as inflation, employment, etc.

The Factors that influence the demand on tourism are: exchange rates, reasons of traveling, prices of tourist packages, demographic factors, promotions and seasonality. On the other hand, factors that influence the supply for tourism are: investments in infrastructure, the role of the government, employment and attractions.

After running the regression analysis, the results obtained showed that the hypothesis raised in this study is rejected. Some of the variables taken into consideration showed that tourism contributes positively in the economic growth of the countries, but in general the majority of the variables showed that they do not move together in the long run.

Due to some previous conflicts, or unequal economic development countries have, they don't cooperate with each other, as it should be. Therefore, in the future, they should collaborate and they should function and be marketed in the market, as one travel destination, to be more preferable by the tourists.

Geographical positioning, nature, climate and historical values make the countries favorite destinations for local and foreign tourists. But this potential is not used adequately due to constraints such as: informality, non-implementation of the strategy appropriately, the lack of specialized services, difficulties in transport and accommodation.

The role of the government is essential in reducing the problematic in informality, services, transport, etc. It should undertake more reforms in each of the fields that appear problems.

Despite everything, the future is promising for the four countries, since they are being marketed more in the world, and they are turning in preferable destinations for the tourists, every day more. Growing statistics for the variables we included in the study endorse this conclusion.

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Appendix A

Table 9: Histogram and statistics of Travel and Tourism contribution to GDP

Series: CGDP	
Sample 2000 2015	
Observations 64	
Mean	886.5125
Median	723.6000
Maximum	2187.100
Minimum	175.2000
Std. Dev.	568.9052
Skewness	0.776269
Kurtosis	2.686808
Jarque-Bera	6.689243
Probability	0.035274
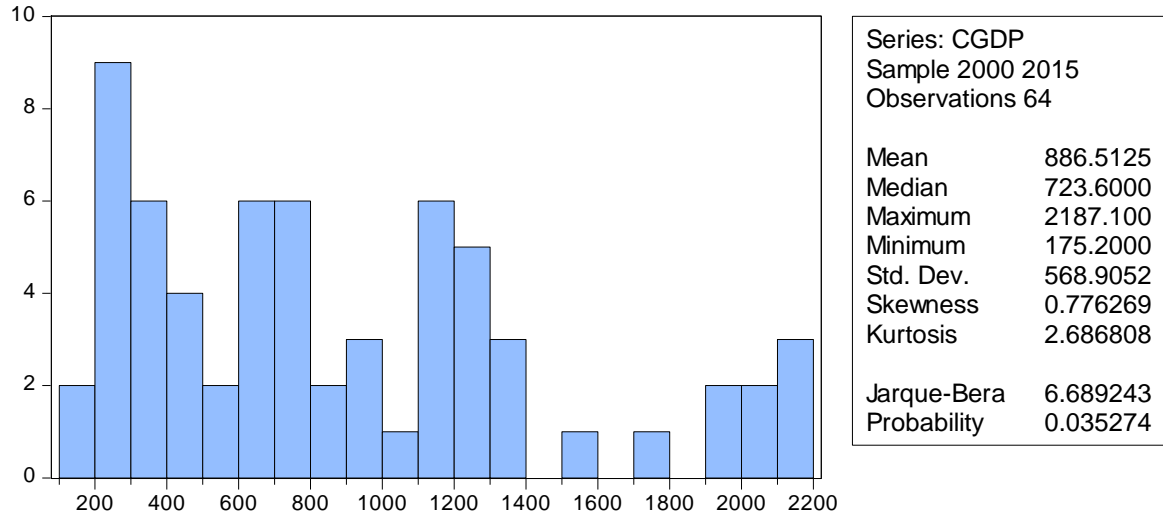
Table 10: Histogram and statistics of the number of arrivals

Series: ARRIVAL	
Sample 2000 2015	
Observations 58	
Mean	751067.8
Median	532606.0
Maximum	3513666.
Minimum	108808.0
Std. Dev.	734279.1
Skewness	2.274035
Kurtosis	8.080143
Jarque-Bera	112.3576
Probability	0.000000
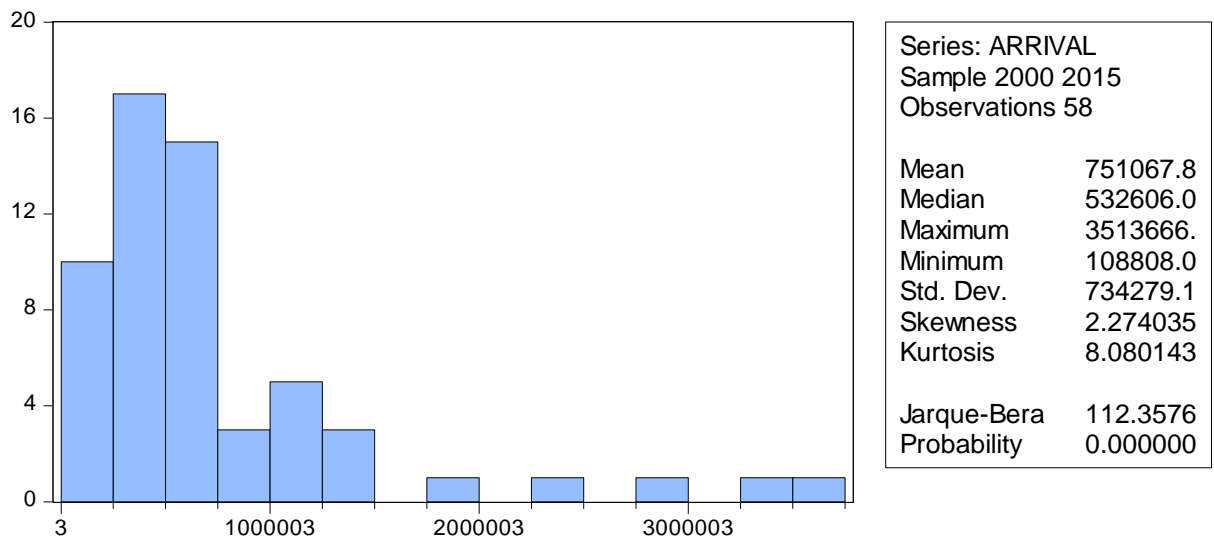
Table 11: Histogram and statistics of the capital investment

Series: CINV		
Sample 2000 2015		
Observations 64		
Mean		104.9016
Median		112.9000
Maximum		387.1000
Minimum		10.00000
Std. Dev.		71.22436
Skewness		0.898703
Kurtosis		5.030552
Jarque-Bera		19.61015
Probability		0.000055
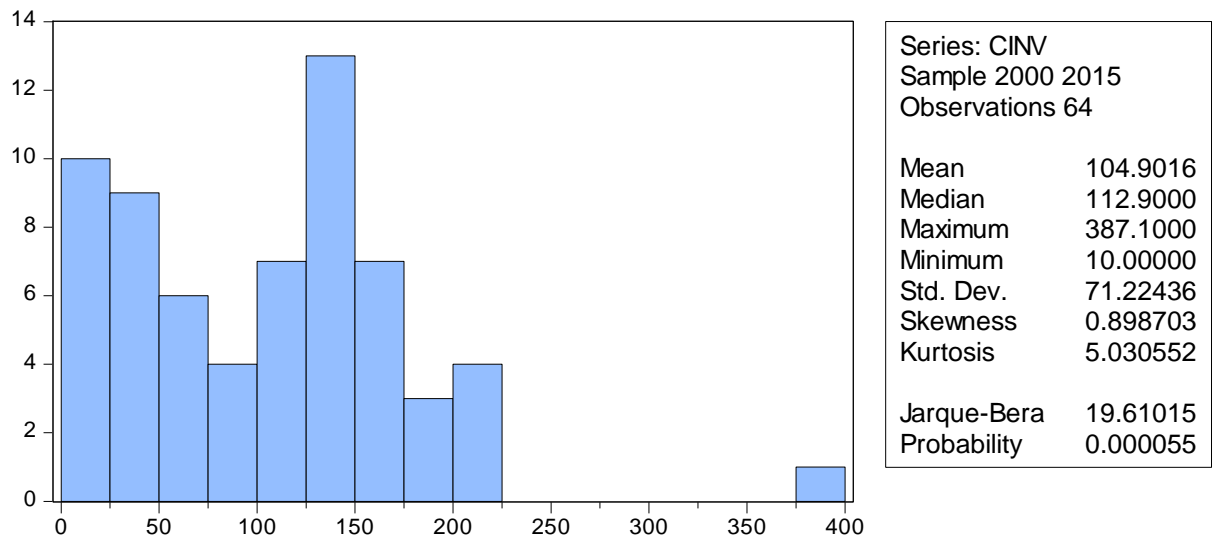
Table 12: Histogram and statistics of nights spent in hotel

Series: HOTEL		
Sample 2000 2015		
Observations 59		
Mean		719112.1
Median		539000.0
Maximum		2226395.
Minimum		170933.0
Std. Dev.		508802.9
Skewness		1.727969
Kurtosis		5.016088
Jarque-Bera		39.35328
Probability		0.000000

39
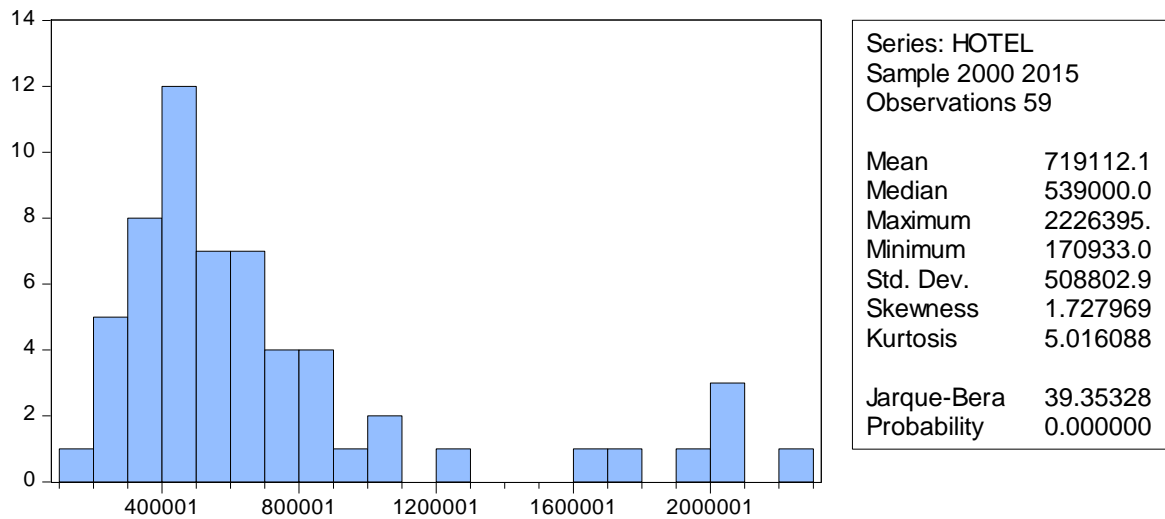
Table 13: Histogram and statistics of visitor exports

	Series: EXC
	Sample 2000 2015
	Observations 64
Mean	580.0625
Median	558.5500
Maximum	1510.200
Minimum	74.90000
Std. Dev.	380.8300
Skewness	0.905666
Kurtosis	3.207346
Jarque-Bera	8.863785
Probability	0.011892
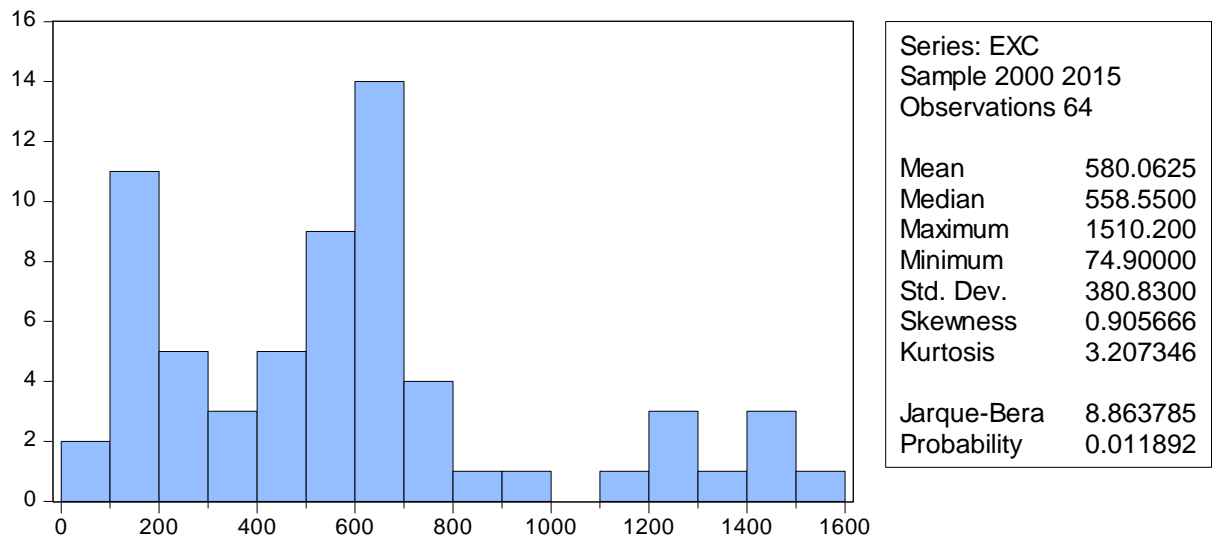
Table 14: Descriptive statistics of tourism contribution to GDP and arrivals, capital investment, nights spent in hotel and visitor exports

	CGDP	HOTEL	ARRIVAL	CINV	EXC
Mean	843.6579	718168.7	762335.5	100.0860	547.6193
Median	707.9000	539000.0	536212.0	100.1000	529.7000
Maximum	2136.400	2226395.	3513666.	387.1000	1510.200
Minimum	175.2000	170933.0	136160.0	10.00000	74.90000
Std. Dev.	540.6847	514934.6	735729.9	72.03516	362.3748
Skewness	0.800837	1.730816	2.266959	1.053601	0.963609
Kurtosis	2.779979	4.964247	8.010167	5.479299	3.478704
Jarque-Bera	6.207706	37.62276	108.4382	25.14466	9.365403
Probability	0.044876	0.000000	0.000000	0.000003	0.009254
Sum	48088.50	40935614	43453123	5704.900	31214.30
Sum Sq. Dev.	16371035	1.48E+13	3.03E+13	290587.6	7353666.
Observations	56	56	56	56	56

Level Results

Panel unit root test: Summary

Series: ARRIVAL

Date: 06/08/16   Time: 15:48

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	1.22767	0.8902	4	50
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.17525	0.8801	4	50
ADF - Fisher Chi-square	6.32858	0.6105	4	50
PP - Fisher Chi-square	4.23884	0.8350	4	54

** Probabilities for Fisher tests are computed using an asymptotic Chi

   -square   distribution.   All   other   tests   assume   asymptotic normality.

Panel unit root test: Summary
Series: CGDP
Date: 06/08/16 Time: 15:48
Sample: 2000 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.36008	0.3594	4	56
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	0.80946	0.7909	4	56
ADF - Fisher Chi-square	6.73657	0.5653	4	56
PP - Fisher Chi-square	5.45558	0.7080	4	60

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: CINV

Date: 06/08/16 Time: 15:50

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.04790	0.0203	4	56

Null: Unit root (assumes individual unit root process)

			Cross-sections	Obs
Im, Pesaran and Shin W-stat	-1.28286	0.0998	4	56
ADF - Fisher Chi-square	15.3011	0.0535	4	56
PP - Fisher Chi-square	24.4272	0.0019	4	60

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: EXC

Date: 06/08/16 Time: 09:56

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.30681	0.6205	4	56

Null: Unit root (assumes individual unit root process)

Im, Pesaran and Shin W-stat	1.91415	0.9722	4	56
ADF - Fisher Chi-square	2.83099	0.9445	4	56
PP - Fisher Chi-square	2.47391	0.9629	4	60

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: EXC

Date: 06/08/16   Time: 09:56

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.30681	0.6205	4	56
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.91415	0.9722	4	56
ADF - Fisher Chi-square	2.83099	0.9445	4	56
PP - Fisher Chi-square	2.47391	0.9629	4	60

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: HOTEL
Date: 06/14/16   Time: 15:48
Sample: 2000 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.09843	0.4608	4	51
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	0.85361	0.8033	4	51
ADF - Fisher Chi-square	5.56448	0.6959	4	51
PP - Fisher Chi-square	4.41952	0.8174	4	55

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.

First difference results

Panel unit root test: Summary

Series: D(GARRIVAL)

Date: 06/08/16   Time: 15:49

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	2.67106	0.9962	4	42
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.13818	0.1275	4	42
ADF - Fisher Chi-square	13.0103	0.1115	4	42
PP - Fisher Chi-square	60.8648	0.0000	4	46

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: D(CGDP)
Date: 06/08/16   Time: 15:50
Sample: 2000 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.62493	0.7340	4	52
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.44168	0.3294	4	52
ADF - Fisher Chi-square	7.82339	0.4509	4	52
PP - Fisher Chi-square	20.2514	0.0094	4	56

** Probabilities for Fisher tests are computed using an asymptotic Chi
     -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(GCINV)

Date: 06/08/16   Time: 15:49

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.83958	0.0329	4	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.94717	0.0000	4	48
ADF - Fisher Chi-square	30.0762	0.0002	4	48
PP - Fisher Chi-square	88.7226	0.0000	4	52

** Probabilities for Fisher tests are computed using an asymptotic

Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(GEXC)

Date: 06/08/16   Time: 15:49

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.18130	0.5719	4	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.06844	0.0193	4	48
ADF - Fisher Chi-square	18.5547	0.0174	4	48
PP - Fisher Chi-square	45.0750	0.0000	4	52

** Probabilities for Fisher tests are computed using an asymptotic

Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: D(HOTEL)
Date: 06/08/16   Time: 15:49
Sample: 2000 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections
Null: Unit root (assumes common unit root process)			
Levin, Lin & Chu t*	-2.93910	0.0016	4
Null: Unit root (assumes individual unit root process)			
Im, Pesaran and Shin W-stat	-2.11017	0.0174	4
ADF - Fisher Chi-square	18.6726	0.0167	4
PP - Fisher Chi-square	30.7353	0.0002	4

** Probabilities for Fisher tests are computed using an asymptotic
Chi
    -square distribution. All other tests assume asymptotic
normality.

Panel unit root test: Summary

Series: D(CGDP)

Date: 06/08/16   Time: 12:23

Sample: 2000 2015

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.74551	0.2280	4	52
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.64869	0.0496	4	52
ADF - Fisher Chi-square	15.5930	0.0486	4	52
PP - Fisher Chi-square	42.6773	0.0000	4	56

** Probabilities for Fisher tests are computed using an asymptotic Chi

Pedroni Residual Cointegration Test
Series: GCGDP GHOTEL GARRIVAL GCINV GEXC
Date: 06/14/16   Time: 15:51
Sample: 2000 2015
Included observations: 64
Cross-sections included: 4
Null Hypothesis: No cointegration
Trend assumption: Deterministic intercept and trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-2.624342	0.9957	-2.790279	0.9974
Panel rho-Statistic	1.807001	0.9646	1.804973	0.9645

Panel PP-Statistic	-9.524025	0.0000	-8.611111	0.0000
Panel ADF-Statistic	-1.593379	0.0555	-1.794475	0.0364

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	2.651921	0.9960
Group PP-Statistic	-11.40393	0.0000
Group ADF-Statistic	-2.161745	0.0153

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
1	-0.382	17.68986	3.110459	11.00	12
2	-0.439	15.95974	2.288312	11.00	12
3	-0.404	101.7915	16.71798	10.00	11
4	0.443	14.79190	15.40349	1.00	14

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
1	-1.010	13.95169	1	--	11
2	-1.211	8.913010	1	--	11
3	-0.937	90.71063	1	--	10
4	0.333	11.00475	1	--	13

Table 15: Correlation between variables

	CGDP	HOTEL	ARRIVAL	CINV	EXC
CGDP	1	0.016925928	0.631815839	0.558179173	0.906467279
HOTEL	0.016925928	1	0.213355372	0.669095553	0.146451774
ARRIVAL	0.631815839	0.213355372	1	0.381989496	0.740849368
CINV	0.558179173	0.669095553	0.381989496	1	0.591067711
EXC	0.906467279	0.146451774	0.740849368	0.591067711	1