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Measuring regional inequalities in Greek tourism development

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MEASURING REGIONAL INEQUALITIES IN GREEK TOURISM DEVELOPMENT

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Abstract

In recent times, the attention given to the importance of tourism as a particularly efficient way to promote regional development has significantly increased, owing to the capacity of tourism to create income and employment and to generate synergies within other economic sectors. Tourism is worldwide considered to have a key role in the economic development of regions, and therefore, is widely used to reduce regional disparities and to improve quality of life standards in local communities.

Greece has a long tradition in tourism, mainly due to a gifted natural environment and rich cultural heritage. However, tourism development across regions is highly unbalanced. This is attributed particularly to the highly insular and mountainous geomorphology of the country, the uneven distribution of natural, socio-cultural and environmental resources, and the lack of appropriate regional and tourism development policies during the post war decades. The dominance of the mass

tourism model adopted since the early seventies in the country and the extensive structural inefficiencies, are effectively hindering the existing potential for a balanced and viable tourism development.

The main objective of this paper is to investigate tourism development disparities among Greek regions and to identify factors and occurring patterns that affect the tourism development of regions in order to formulate a strategy and policy framework for balanced regional tourism development. In the first section of this paper an overview of the theoretical approaches related to tourism and balanced regional development is provided. Next, the role of tourism in the Greek national economy and the country's position in the international tourism market are examined. Following an analysis of the evolution of regional tourism disparities in Greece during the last decades in the third section, quantitative techniques are used to assess intra- and cross-regional tourism inequalities in the fourth section. The results reveal the existence of strong regional disparities in tourism development among Greek regions, although the development pattern differs among different types of regions. Finally, in the last section some concluding remarks and policy recommendations are presented, leading to the identification of issues for further research.

Key-words

Tourism development, regional inequalities, Greece

1. THE THEORETICAL BACKGROUND OF REGIONAL INEQUALITIES IN TOURISM DEVELOPMENT

International tourism, according to the neoclassical theory of comparative costs, is considered to be integrated into the global system of labor division between developed and less developed countries, i.e. countries that produce industrial goods and countries which are geared towards the production of raw materials and where natural resources are often available for the development of tourism. Thus, under free trade and on the principle of comparative advantage, less developed countries as destinations of tourist flows, are led to specialization in the production of tourism products which have lower associated costs and, consequently, absolute advantage in marketing them across the remaining countries.

According to Ricardo's classical model (1917), which is oriented towards the supply side, international trade between developing and industrialized countries or regions is usually complementary. For example, countries or regions which have only raw materials or natural resources (beaches, islands, beautiful scenery) and good climatic conditions are to be specialised in that direction in order to have goods to exchange with industrial or technologically advanced products that are not produced to those countries or regions). The developed countries or regions which have natural resources such as climate, beaches, islands and mountains, or culture are not specialized in the same degree.

According to Heckscher (1949) and Ohlin's (1933) theory of factors of production, in order for the production process to take, certain factors should be available, which can be different for each country or region. The production and distribution of tourism goods and services is labor intensive, while production of industrial goods is respectively capital intensive. In industrialized countries or regions, capital intensity is higher than in developing countries or regions. As a result industrially developing countries or regions are trying to specialize in the production of capital goods, while developing countries or regions focus on the production of services, such as tourism.

Unlike most orthodox traditional theories of international trade, which require a given demand and concentrate their attention on the supply side, the neoclassical theory attempts to create a synthesis between supply and demand. The "neoclassical hypothesis" has a high degree of abstraction and a very low empirical framework and is focused on the demand side. The demand theory describes the countries' international specialization, the international distribution of tourist flows and the importance of tourism to national economies. The different levels of demand describe the characteristics of international tourism's development, especially the tourist trade between similar countries with strong economic growth (Lagos 2005:106). The demand theory for differentiated product (the demand for difference product) between partner countries formulated by Linder (1961), who noted that the difference in the levels of production factors between countries, doesn't always represent the international trade. According to Linder, the international specification of a country depends largely on the internal demand. In fact, the growth of international tourism is the result of conditions created by domestic tourism. The comparative advantage of a

country is a result of the quality of its superstructure and infrastructure, as well as its tourism expertise, the technological level and the attractive environment. However, the amount of international tourism is greater in countries that have similar internal tourist structures.

In addition, in the context of regional development theories, tourism is interpreted as follows:

According to the theory of "life cycle of a tourist destination» (Butler 1980) a region of tourist destination can offer many different lifestyles for holidays. The previous approach, which was oriented to the theory of "supply" accepted that a tourist destination can not have a "life cycle" only. Nevertheless, the application of the theory of life cycle of a tourist product is nothing more than a mixture of interpretive factors ranging from the demand, production and trade theory. This cycle is, can not offer any explanation by itself It's just a statistical documentation.

New Economic Geography (geographical economics) or geographical economic analysis (Krugman 1998, Rovolis 2002), argues that at the liberalization of trade, there is a critical point of concentration of activities in specific regions, a "threshold", from which point onwards, the concentration becomes self-sustaining, since in these regions the companies have very significant benefits due to centripetal forces. As a result certain regions continue to concentrate their activities and others continue to lose them. In the concept of this new theoretical approach tourism activity can be integrated because of the "tourist urbanization" (Hare 2001), which favors the local or regional development.

Within the above theoretical approach of the development process, tourism is interpreted depending on the case. In respect to sustainable tourism, it is argued that all forms of tourism can be sustainable, if the principles of sustainable development are followed. However, data show that mass tourism can not be reconciled with sustainable tourism development. Mass tourism and sustainable tourism development are two diametrically opposed forms of tourism and the development of sustainable tourism will mean the simultaneous denial of mass tourism.

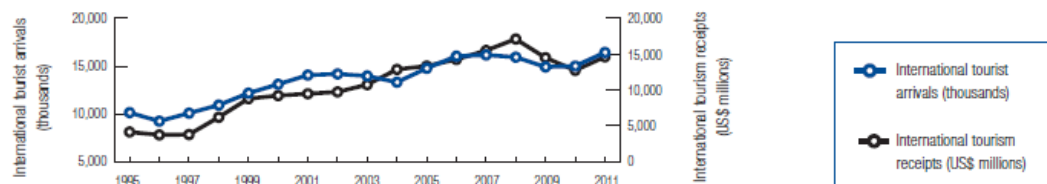
Nevertheless, in recent years at international level (eg Spain, Greece) the model of mass tourism, whose production function is based on the exploitation of natural tourism resources, is characterized by diminishing returns, which means that the model of mass consumption of tourism goods and services has already reached the boundary. Therefore, it is necessary for the countries receiving tourists to follow another model of development that is related to the special and alternative forms of tourism, whose production is based on diversified production of quality tourism goods and services, something that is theoretically accepted.

For that reason, tourism inequalities are familiar with the dominant production mode and are interpreted according to the case.

2. GREEK TOURISM'S PLACE IN INTERNATIONAL TOURISM MARKET.

Elements such as rich cultural heritage, long coastline, numerous islands and gifted natural environment bring to Greece significant tourism advantages, and, make the country one of the major tourist destinations worldwide. Figures about Greek tourism are presented in Table 1. Data show that for the year 2012, the contribution of tourism in total GDP was over 16.4%. Revenues amounted to 10.025 billion euros, compared to 10,505 million euros in 2011, showing a decrease of 4.6%. Employment in the tourism industry, either directly or indirectly, was 18.3% of total employment in the country, which means a total of 688,800 people employed. Greece has 2.93% of the European tourism market and 1.5% of the global market. The average expenditure per capita amounted to 646 euro, which was 1.0% higher than in 2011. The above data clearly show, that tourism is one of the main economic sectors of Greek economy

International tourist arrivals (thousands), 2011 16,427.2
 International tourism receipts (US\$, millions), 2011 14,622.6



Source: Blanke, J., Chiesa, Th. (eds) (2013) The Travel & Tourism Competitiveness Report 2013, World Economic Forum, ISBN-13: 978-92-95044-40-1

Table 1
Greek Tourism 2012- Facts & Figures

Contribution to GDP	16,4%
International Tourism Receipts	10.025 bi EURO
International Tourism Arrivals	15,5 mi
Average per Capita Tourism Expenditure	646 euro
Market Shares	World 1,5%, Europe 2,9%
Employment	688.800 (18,3% of total employment)
Seasonality	56% of international tourist arrivals take place in the period July – August – September 2012
Concentration of Supply	66% of hotel beds is in 4 regions of Greece (Crete, Dodecanese, Macedonia, Central Greece)
Hotel Capacity	9.670 units, 771.271 beds
Top Origin Markets Based on International Tourism Receipts	Germany (16,5%), United Kingdom (14,2%), Russia (9,4%), France (7,6%), Italy (5,4%)
Top 5 Airports (in arrivals of non – residents)	Athens (2.555.355), Herakleion (2.113.501), Rhodes (1.606.843), Thessaloniki (1.307.537), Corfu (839.759)

Source: SETE 2013:10

Furthermore, in order to investigate the country's positioning in the highly competitive Mediterranean tourism market, it is worth studying its place in the international tourism market in comparison with major Mediterranean destinations. Table 2 shows comparative data of Greece, Spain, Cyprus, Turkey, Egypt and Croatia

for the year 2011. International arrivals in the country were ranked at the 17th place in the international tourism market classification and correspondingly revenues were at the 19th place. Both these rankings are considered to be quite high for a small country in terms of population and area. In the same table we see that the country holds 1.7% of global arrivals and a share in revenues from tourism of 1.4% for 2011.

Table 2
Greek Tourism Performance in 2011

Performance in 2011						
Greece - Competitors						
Performance Indicators 2011	Greece	Spain	Cyprus	Turkey	Egypt	Croatia
Classification – International Arrivals	17th	4th	Under the 50th	6th	26th	24th
Classification - Revenues	19th	2nd	Under the 50th	12nd	33rd	32nd
International Arrivals 2011 (million)	1640,00	5670,00	240,00	2930,00	950,00	990,00
% change of arrivals 2000 - 2011	32,30%	22,20%	-11,10%	205,20%	86,30%	86,80%
Revenues - 2011 billion USD	1460,00	5990,00	250,00	2300,00	870,00	920,00
% change of revenues 2000-2011	58,70%	1	0	202,60%	102,30%	228,60%
Average per capita expenditure per trip USD	89000,00	105600,00	104200,00	78500,00	91600,00	92900,00
Market share in global Arrivals	1,70%	5,80%	0,20%	3,00%	1,00%	1,00%
Market share in global Revenues	1,40%	5,80%	0,20%	2,20%	0,80%	0,90%

Source: SETE 2011

The main countries of origin of visitors until a few years ago were Germany and the United Kingdom. In the last decade however, new countries emerged in the international tourism market, mainly Russia and the neighboring Balkan countries, from which Greece attracts a large number of visitors. In particular, arrivals from Russia show significant growth in recent years. On the other hand, numbers of visitors from countries such as Japan and China are rather low, which indicates that there are important markets from which Greece could gain an even greater share.

According to the latest data from the WEF (Table 3), Switzerland comes first at the overall ranking in competitiveness and the sub-indicators regarding the regulatory framework and business environment and infrastructure, and comes second regarding the human, cultural and natural environment sub-indicator. Greece has a medium performance in the competitiveness of the tourism sector and lost another three positions in the overall ranking for the competitiveness of the travel and tourism sector reaching the 32nd place in 2013 from the 29th place in 2011. Regarding the sub-indicators, Greece comes in the 33rd place for its Business Environment and Infrastructure and in the 30th place for its Human, Cultural and Natural Resources. The loss of three positions in the overall ranking is considered to be due to the shrinking of available resources for the development of the tourism sector, because of the serious economic and financial problems.

Table 3
Travel & Tourism Competitiveness Index 2013 and 2011 Comparison

Countries	Overall Index				T & T Regulatory Framework			Business Environment & Infrastructure			T & T Human, Cultural and Natural Resources		
	2013		2011		2013		2011	2013		2011	2013		2011
	Overall I Rank	Score	Overall I Rank	Score	Rank	Score	Rank	Rank	Score	Rank	Rank	Score	Rank
Switzerland	1	5,66	1	5,68	1	5,94	1	1	5,42	1	2	5,63	2
Germany	2	5,39	2	5,50	8	5,57	12	6	5,29	2	7	5,31	5
Austria	3	5,39	4	5,41	2	5,80	3	11	5,11	12	9	5,24	10
Spain	4	5,38	8	5,29	14	5,48	22	5	5,30	10	6	5,36	6
USA	6	5,32	6	5,30	44	4,95	44	2	5,36	3	1	5,65	1
France	7	5,31	3	5,41	9	5,56	7	7	5,18	8	11	5,20	9
Portugal	20	5,01	18	5,01	20	5,42	19	27	4,78	24	19	4,84	17
Italy	26	4,90	27	4,87	50	4,90	45	29	4,76	27	14	5,05	15
Cyprus	29	4,84	24	4,89	22	5,35	23	21	4,89	14	46	4,27	44
Czech Rep.	31	4,78	31	4,77	28	5,24	26	37	4,49	37	28	4,61	31
GREECE	32	4,75	29	4,78	39	5,02	34	33	4,65	29	30	4,58	29
Croatia	35	4,59	34	4,61	42	4,99	42	39	4,43	36	42	4,37	43
Turkey	46	4,44	50	4,37	64	4,62	66	52	4,08	39	27	4,63	28
Morocco	71	4,03	78	3,93	68	4,59	69	73	3,60	77	68	3,89	73
Egypt	85	3,88	75	3,96	86	4,35	70	77	3,56	74	84	3,74	71

Source: World Economic Forum 2013

In addition, compared to other competitors such as Spain, Portugal, Turkey, Morocco, Malta, etc., Greece has the lowest per capita income from tourism (SETE, 2013:12)

According to estimates from experts of the global tourism industry (SETE, 2012, 2013), the prospects of tourism in the coming years are expected to be positive. This is mainly attributed to economic factors (increased income in the countries sending tourists), technological factors (developments in transport, telecommunications and information technology) and institutional factors (liberalization of air transport, removal of restrictions on international travel in some countries, changes in the institutionalized holiday's system).

Greece's tourist resources include flora and fauna, national parks, aesthetic forests, monuments of nature, marine parks, wetlands ten (10) of which are of international importance, protected areas, 15 UNESCO World Heritage archaeological sites and monuments, landscapes of outstanding natural beauty, clean beaches and mild climate.

Special tourist infrastructure includes numerous ski resorts, mountain shelters, thalassotherapy centers and one under construction, spas, boating harbors (marinas), marinas under construction and yacht shelters. In addition, museums supervised by the Ministry of Culture and archaeological sites are also included.

Despite the relatively good tourist image of Greece's tourism industry, criticism on the country's tourism development focuses upon the development planning orientation of the early postwar period which led to the over-concentration of supply in some areas, the deterioration of the natural environment, and the cumulative excess (overload) and degradation in some regions (Lagos 1998:105-107). Furthermore, the

fact that Greece failed to resolve major structural problems inhibited the effort to achieve a balanced tourism development. The main concerns focus on the following:

- The *financial crisis* that affects Greek economy in recent years, which has significantly reduced domestic tourism
- *The Competition* among Mediterranean countries has been intensified with Greece's tourism product not sufficiently diversified and enriched.
- *Seasonality* is a particularly serious problem, not yet possible to deal with.
- The country lacks improvement in *basic infrastructure* (transport, health services) and organizational mechanisms (spatial planning, regional planning,
- The country's non-significant diversification of tourism destinations. The most popular are still the mass tourism 'sea and sun' sites (Corfu, Crete, Rhodes, Chalkidiki).
- The failure of the market to support the *special and alternative forms of tourism*, which reflect the new trend in tourism with major contribution to regional development. The weakness is caused due to the *hesitation of entrepreneurs* to undertake investment projects on alternative and innovative forms of tourism and the *lack of infrastructure* in areas where the required natural resources (rivers, lakes, hot springs, forests) exist.

The above overview shows that tourism in Greece is an economic activity that generates income, contributes to GDP growth, encourages investment and stimulates employment. Therefore, it is expected that, in the coming years, tourism can be the key and essential aspect of regional development in Greece. In addition, it is estimated that the current model of tourism development in Greece uses only a few of the country's comparative advantages as a destination, focusing mainly on islands and coastal regions and effectively utilize only the good climate conditions and the sea.

3. EMPIRICAL EVALUATION OF REGIONAL TOURIST INEQUALITIES

The empirical assessment of regional tourist inequalities is usually done with the help of well-known measures of regional statistics. Those measures include measures of dispersion and concentration, Location Quotient, location and specialization measures, tourist density indices, occupancy indices, hotel density indices etc. Some of these measures are derived from the descriptive statistics, while others have been specifically formulated for the needs of regional and tourism analysis (Spyratou 1999, Papadaskalopoulos 2000, Lagos 2003, Papadaskalopoulos & Christofakis 2004).

The first statistical measure that was employed is the Herfindahl-Hirschman Index, probably the most commonly used indicator of concentration/specialization.

The Herfindahl-Hirschman index is a commonly accepted statistical measure of market concentration and specialization. The Hirschman-Herfindahl Index of spatial concentration captures the degree to which a particular industry's spatial distribution reflects that of the national urban hierarchy (McCann, 2001). It is also referred to as the absolute concentration and specialization index. The value of the index is between

0 and 1, depending on the measure of absolute concentration and specialization. When reaching its upper limit of 1, then the sector j is concentrated to one region or the region i is specialized in only one sector. At its lowest level of concentration, all regions have equal shares in sector j, and at its lowest level of specialization all sectors have equal shares in region i.

$$H_j^C = \sum_{i=1}^n (g_{ij}^c)^2, H_i^S = \sum_{j=1}^m (g_{ij}^s)^2$$

where $g_{ij}^c = \frac{X_{ij}}{\sum_{i=1}^n X_{ij}} = \frac{X_{ij}}{X_j}$ and

$$g_{ij}^s = \frac{X_{ij}}{\sum_{j=1}^m X_{ij}} = \frac{X_{ij}}{X_i}$$

- H_j^c Herfindahl-Hirschman concentration Index
- H_i^s Herfindahl-Hirschman specialization Index
- i region
- j sector
- X number of employees ;
- X_{ij} i region's number of employees in j sector;
- X_j all employees of j sector;
- X_i all employees of i region;
- g_{ij}^c the share of region i in the total national value of sector j ;
- g_{ij}^s the share of sector j in the total value of region i .

Another Index that is used is the Krugman Dissimilation Index, which is used for measuring either concentration or specialization. It is a relative measure of specialisation/concentration which compares one sector/region with the overall economy. A slightly different form of the index may be used to compare two countries/regions. Its values range from 0 (when all territorial/sectoral structures are identical) to 2 (for totally different structures).

$$K_j^C = \sum_{i=1}^n |g_{ij}^c - g_j| \quad K_i^S = \sum_{j=1}^m |g_{ij}^s - g_i|$$

$$g_i = \frac{X_i}{X}, g_j = \frac{X_j}{X}$$

- g_{ij}^c the share of region i in the total national value of sector j
- g_{ij}^s the share of sector j in the total value of region i
- X Total Gross Value Added, or employment

The relative concentration analyzes the distribution of the activities of an industry compared to the average of the distribution of the whole of the activities.

Finally, the *coefficient of absolute structural changes* is used for measuring the average change in sectoral or territorial shares recorded in different units of time:

$$\tau_{g_1-g_0} = \sqrt{\frac{\sum_{i=1}^n (g_{1i} - g_{0i})^2}{n}}$$

Where g_{1i} and g_{0i} are the sectoral or regional shares i in two time periods 1 and 0.

The indicator increases with the intensity of the time changes in either specialization or concentration.

Tables 4,4A και 5, 5A show the data of employment and Total gross value added, by region, hotel industry (sector 55) and in total for the years 2000-2007. As we can see, total employment has increased from 2000 to 2007. Looking at the regions we can notice that, for some regions employment has shown a slight decline (i.e. East Macedonia - Thrace and Attica), while in all the other regions, employment has increased from 2000 to 2007. Regarding the employment in the hotel industry, we notice that there was an increase in every region from 2000 to 2007. In the case of Total Gross Value Added, we notice that there is a significant increase from 2000 to 2007 for every region. This applies for both the hotel industry sector and all the sectors.

Table 4

Employment by region				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	238.400	235.868	235.386	235.759
Central Macedonia	741.341	748.325	752.540	761.954
West Macedonia	97.739	103.355	101.583	104.675
Epirus	113.706	125.468	127.325	132.269
Thesally	281.646	287.399	304.983	295.111
Ionian Islands	77.976	90.400	95.213	86.963
West Greece	251.399	277.747	282.075	278.050
Central Greece	195.407	225.825	222.799	224.259
Attica	1.701.227	1.606.586	1.698.372	1.684.640
Peloponnisos	226.126	248.126	253.849	254.011
North Aegean	63.371	68.761	72.679	72.097
South Aegean	107.723	122.307	127.552	119.748
Crete	247.551	267.854	271.675	260.338
Total	4.343.612	4.408.022	4.546.031	4.701.792

Table 4A

Employment in sector 55				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	13.293	12.213	16.249	13.353
Central Macedonia	40.677	43.524	42.092	46.778
West Macedonia	4.919	5.306	4.738	6.153
Epirus	7.284	8.542	6.432	10.898
Thesally	17.112	17.746	17.350	17.826
Ionian Islands	11.864	14.945	19.134	16.145
West Greece	12.553	16.349	19.555	18.067
Central Greece	11.891	14.128	15.933	16.310
Attica	82.941	86.377	81.914	89.896
Peloponnisos	12.460	15.551	13.592	15.218
North Aegean	4.605	6.012	6.841	6.809
South Aegean	22.737	21.578	26.841	23.947
Crete	29.783	29.404	33.440	30.058
Total	272.119	291.675	304.411	288.191

Table 5

Region's Total Gross Value Added				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	4.850	5.786	6.504	7.252
Central Macedonia	17.744	21.325	24.317	26.929
West Macedonia	2.692	3.338	3.838	4.282
Epirus	2.895	3.605	4.037	4.600
Thesally	6.310	8.098	8.770	9.668
Ionian Islands	2.055	2.606	2.834	3.233
West Greece	5.541	6.922	7.608	8.484
Central Greece	6.864	7.423	8.439	8.971
Attica	54.079	74.127	85.614	99.749
Peloponnisos	5.913	6.686	7.672	8.656
North Aegean	1.594	2.095	2.282	2.572
South Aegean	3.805	4.617	4.833	5.657
Crete	6.040	7.677	8.423	9.750
Total	120.382	154.305	175.171	199.803

Table 5A

Total Gross Value Added of sector 55				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	353	339	388	437
Central Macedonia	1.019	1.200	1.449	1.589
West Macedonia	130	127	144	163
Epirus	213	235	259	291
Thesally	382	431	477	532
Ionian Islands	551	601	607	704
West Greece	304	371	434	472
Central Greece	299	343	389	442
Attica	2.918	3.642	4.492	5.010
Peloponnisos	411	422	510	552
North Aegean	180	182	188	214
South Aegean	1.273	1.204	1.270	1.443
Crete	1.029	1.105	1.115	1.325
Total	9.061	10.201	11.722	13.174

Based on the above statistics, Tables 6 and 6A represent statistical estimates of the indicators for the years 2000 to 2007 based on based on concentration ratios of Herfindahl-Hirschman Index (g^c) and Krugman Dissimilarity Index (k^c). Figures 1 and 1A show the graphs of these estimates. As we can see from table 6, most regions show a decline in HHI from 2000 to 2007. In addition, in 2007 Attica is the region with the highest indicator, followed by Central Macedonia, South Aegean and Crete. This means that those regions have a moderate concentration which is explained by the fact that those regions attract most of the tourism flows. All the other regions have low values of the indicator, showing no significant concentration. Finally, as we can see from Table 6A, Attica is the region which has the highest concentration, followed by Central Macedonia and South Aegean. This is also compatible with the conclusions drawn for HHI.

Table 6

g^c Concentration Indices				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	0,039	0,033	0,033	0,033
Central Macedonia	0,112	0,118	0,124	0,121
West Macedonia	0,014	0,012	0,012	0,012
Epirus	0,024	0,023	0,022	0,022
Thesally	0,042	0,042	0,041	0,040
Ionian Islands	0,061	0,059	0,052	0,053
West Greece	0,034	0,036	0,037	0,036
Central Greece	0,033	0,034	0,033	0,034
Attica	0,322	0,357	0,383	0,380
Peloponnisos	0,045	0,041	0,044	0,042
North Aegean	0,020	0,018	0,016	0,016
South Aegean	0,141	0,118	0,108	0,110
Crete	0,114	0,108	0,095	0,101

Table 6A

Krugman Dissimilarity					
Regions	2000 (g^c - gⁱ)	2003 (g^c - gⁱ)	2005 (g^c - gⁱ)	2007 (g^c - gⁱ)	K^c
East Macedonia - Thrace	0,010	0,009	0,020	0,013	0,052
Central Macedonia	0,037	0,032	0,015	0,042	0,125
West Macedonia	0,004	0,006	0,003	0,009	0,022
Epirus	0,003	0,006	0,001	0,016	0,026
Thesally	0,021	0,019	0,016	0,021	0,077
Ionian Islands	0,017	0,008	0,011	0,003	0,039
West Greece	0,013	0,020	0,027	0,027	0,086
Central Greece	0,011	0,015	0,019	0,023	0,068
Attica	0,017	0,061	0,114	0,068	0,261
Peloponnisos	0,000	0,012	0,001	0,011	0,024
North Aegean	0,003	0,003	0,006	0,007	0,020
South Aegean	0,057	0,044	0,020	0,026	0,148
Crete	0,004	0,007	0,015	0,004	0,030

Figure 1

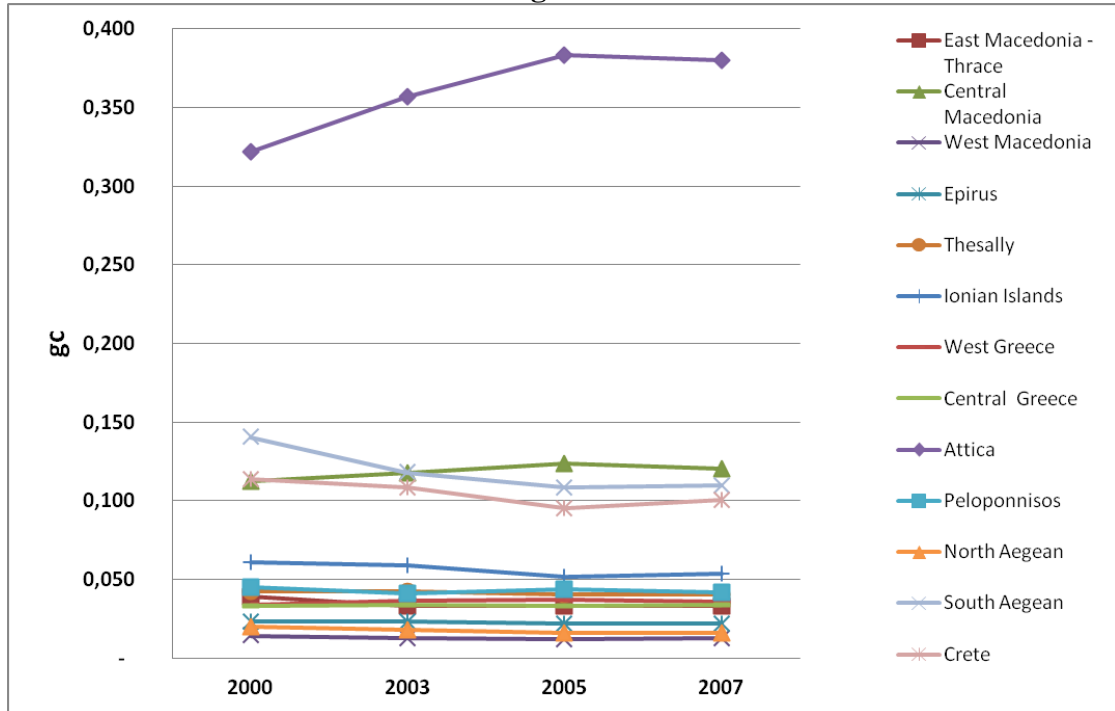
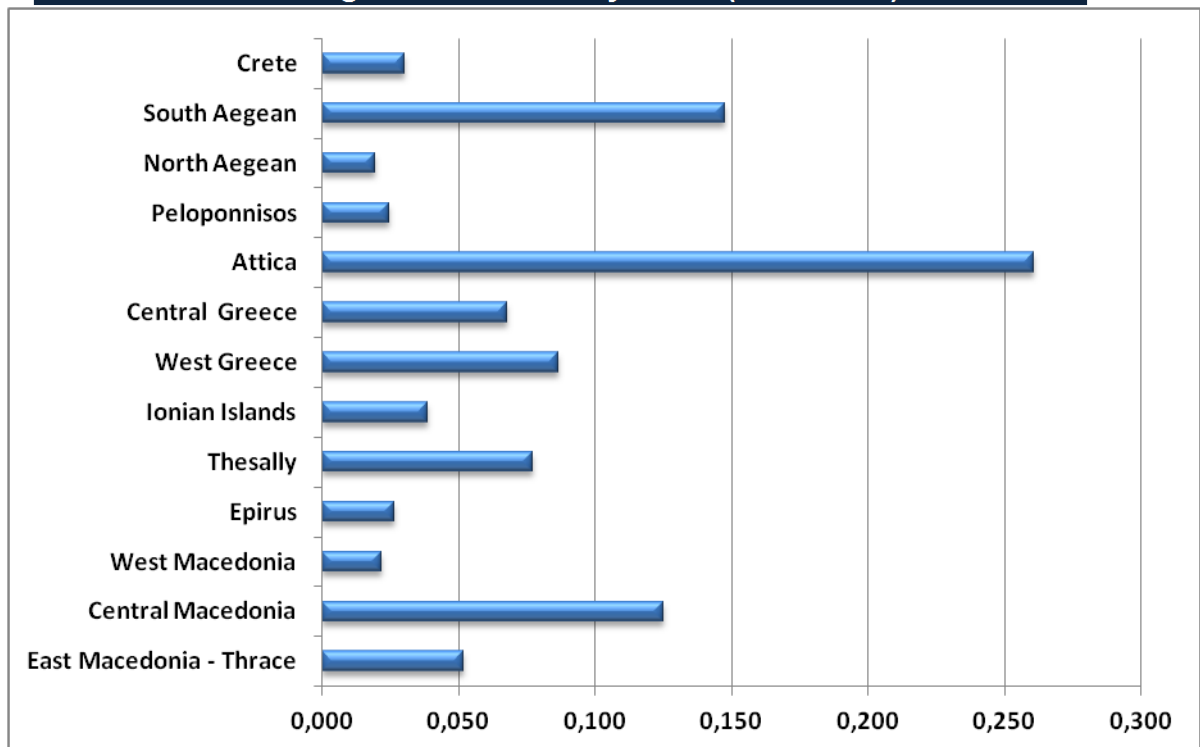


Figure 1A

K^C - Krugman Dissimilarity Index (2000-2007)



Tables 7 and 7A represent the statistical estimates of the indicators for the years 2000 to 2007 based on the specialization ratios of Herfindahl-Hirschman Index (g_s) and

Krugman Dissimilarity Index (ks). Figures 2 and 2A show the graphs of these estimates.

As we can see in Table 7, all regions show a decline in specialization index from 2000 to 2007. The highest levels of specialization for the year 2007 are in island regions with intense tourism development, i.e. Ionian Islands, South Aegean and Crete. This is an indication that those regions have the tourism sector as the dominant one and have their development based on it. Regarding Krugman's Dissimilarity Index in Table 7A, the highest values apply for the South Aegean, followed by Ionian Islands and Crete. Therefore, the same pattern seems to apply in that case as well.

Table 7

g^s Specialization Indices				
Regions	2000	2003	2005	2007
East Macedonia - Thrace	0,073	0,059	0,060	0,060
Central Macedonia	0,057	0,056	0,060	0,059
West Macedonia	0,048	0,038	0,038	0,038
Epirus	0,074	0,065	0,064	0,063
Thesally	0,060	0,053	0,054	0,055
Ionian Islands	0,268	0,231	0,214	0,218
West Greece	0,055	0,054	0,057	0,056
Central Greece	0,043	0,046	0,046	0,049
Attica	0,054	0,049	0,052	0,050
Peloponnisos	0,069	0,063	0,067	0,064
North Aegean	0,113	0,087	0,082	0,083
South Aegean	0,335	0,261	0,263	0,255
Crete	0,170	0,144	0,132	0,136

Table 7A

Krugman Dissimilarity					
Regions	2000 ($g^s - g^i$)	2003 ($g^s - g^i$)	2005 ($g^s - g^i$)	2007 ($g^s - g^i$)	K^s
East Macedonia - Thrace	0,017	0,007	0,009	0,004	0,037
Central Macedonia	0,003	0,002	0,004	0,002	0,010
West Macedonia	0,002	0,013	0,009	0,021	0,045
Epirus	0,010	0,003	0,014	0,019	0,045
Thesally	0,000	0,009	0,002	0,005	0,017
Ionian Islands	0,116	0,065	0,013	0,032	0,227
West Greece	0,005	0,005	0,012	0,009	0,032
Central Greece	0,017	0,016	0,025	0,023	0,083
Attica	0,005	0,005	0,004	0,003	0,017
Peloponnisos	0,014	0,000	0,013	0,004	0,032
North Aegean	0,040	0,001	0,012	0,011	0,064
South Aegean	0,123	0,084	0,052	0,055	0,315
Crete	0,050	0,034	0,009	0,020	0,114

Figure 2

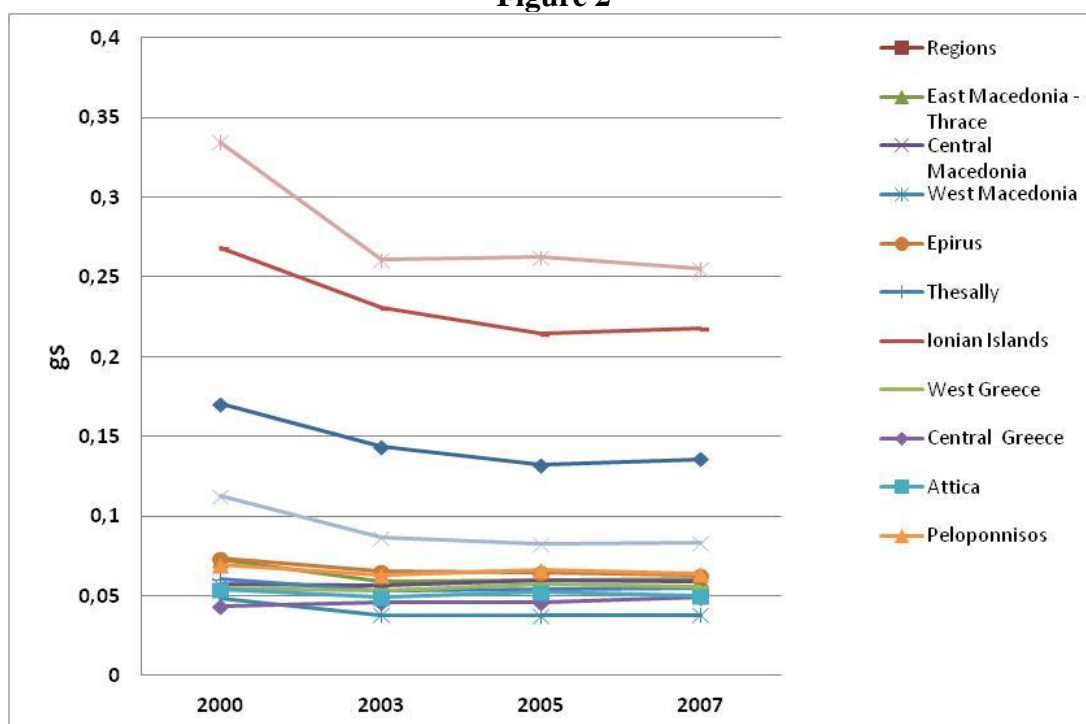
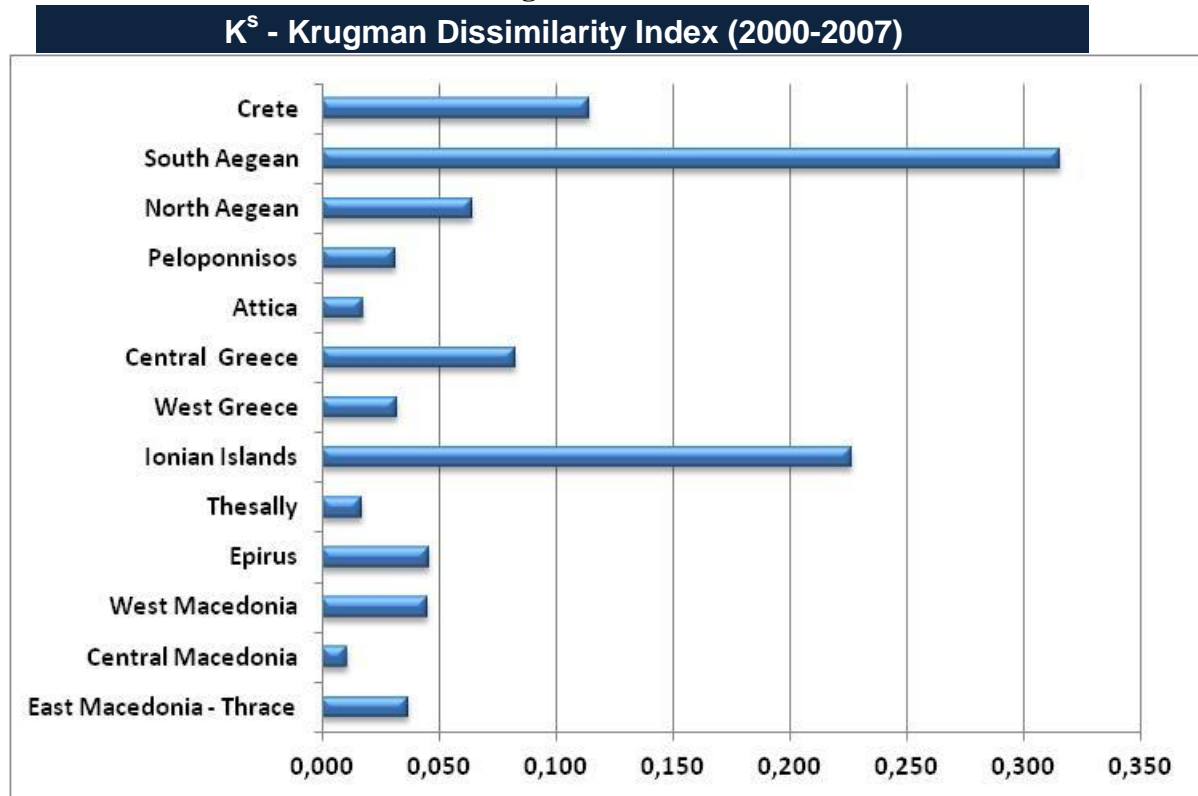


Figure 2A



Tables 8 and 8A show the rates of the coefficient of absolute structural changes for the time period 2000-2003, 2003-2005 2005-2007. Figures 3 and 3A show the graphs of these estimates.

The values of the coefficient of absolute structural changes have a small variation from a region to another or between the time periods examined. There was not a specific pattern of change, since for some regions there was a reduction of its values (i.e. Attica, Central Macedonia), and for others was an increase (i.e. Crete, North Aegean).

Table 8

Region	2003/2000	2005/2003	2007/2005	T
	(g2003-g2000) ²	(g2005-g2003) ²	(g2007-g2005) ²	
East Macedonia - Thrace	0,000049	0,000132	0,000050	0,0088
Central Macedonia	0,000000	0,000120	0,000578	0,0153
West Macedonia	0,000000	0,000007	0,000033	0,0037
Epirus	0,000006	0,000067	0,000278	0,0108
Thesally	0,000004	0,000015	0,000024	0,0038
Ionian Islands	0,000058	0,000135	0,000047	0,0089
West Greece	0,000098	0,000067	0,000002	0,0075
Central Greece	0,000022	0,000015	0,000018	0,0043
Attica	0,000075	0,000732	0,001835	0,0297
Peloponnisos	0,000057	0,000075	0,000067	0,0081
North Aegean	0,000014	0,000003	0,000001	0,0025
South Aegean	0,000092	0,000201	0,000026	0,0103
Crete	0,000075	0,000082	0,000031	0,0079

Table 8A

Region	2003/2000		2005/2003		2007/2005	
	(g2003-g2000) ²	T	(g2005-g2003) ²	T	(g2007-g2005) ²	T
East Macedonia - Thrace	0,0000487	0,0070	0,0001324	0,0115	0,0000496	0,0070
Central Macedonia	0,0000001	0,0003	0,0001198	0,0109	0,0005780	0,0240
West Macedonia	0,0000000	0,0001	0,0000069	0,0026	0,0000335	0,0058
Epirus	0,0000063	0,0025	0,0000665	0,0082	0,0002785	0,0167
Thesally	0,0000042	0,0020	0,0000148	0,0038	0,0000236	0,0049
Ionian Islands	0,0000584	0,0076	0,0001350	0,0116	0,0000467	0,0068
West Greece	0,0000984	0,0099	0,0000670	0,0082	0,0000024	0,0015
Central Greece	0,0000225	0,0047	0,0000152	0,0039	0,0000181	0,0043
Attica	0,0000749	0,0087	0,0007318	0,0271	0,0018354	0,0428
Peloponnisos	0,0000567	0,0075	0,0000751	0,0087	0,0000665	0,0082
North Aegean	0,0000136	0,0037	0,0000035	0,0019	0,0000013	0,0012
South Aegean	0,0000917	0,0096	0,0002015	0,0142	0,0000258	0,0051
Crete	0,0000746	0,0086	0,0000817	0,0090	0,0000308	0,0056

Figure 3

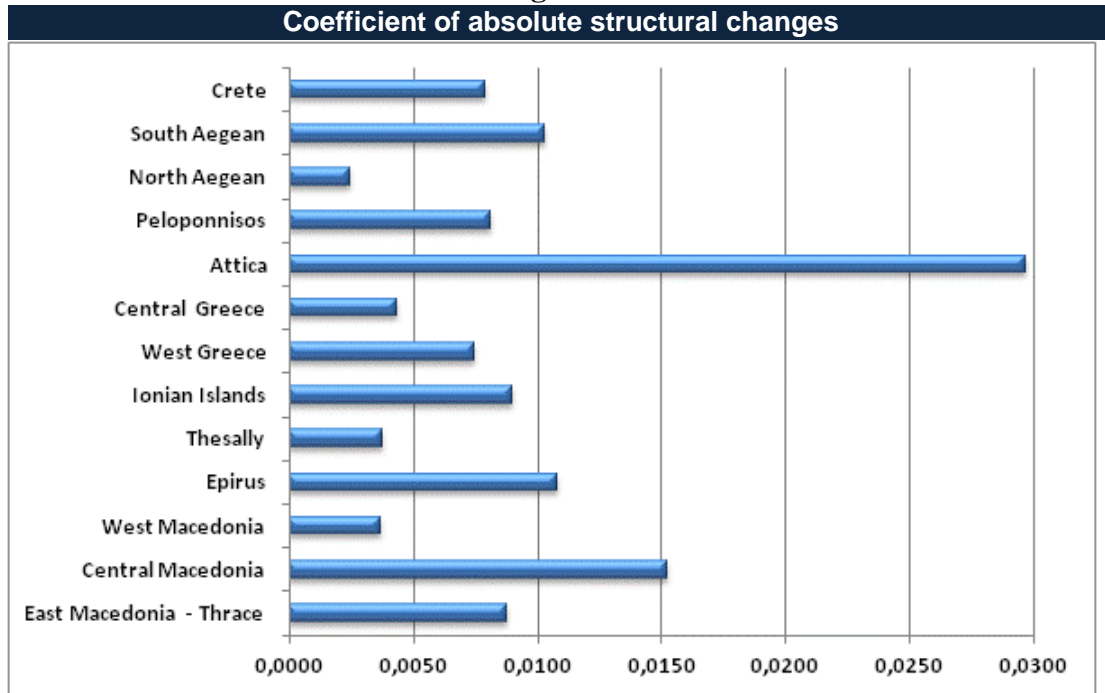
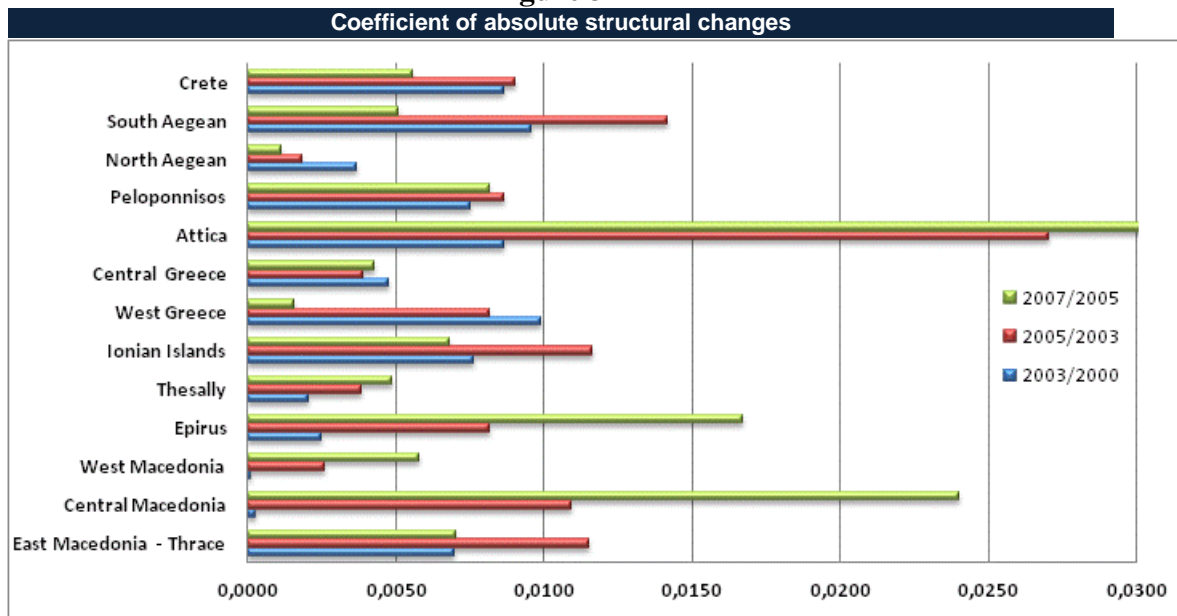


Figure 3A



4. CONCLUSIONS AND POLICY PROPOSALS FOR ALLEVIATING REGIONAL TOURISM INEQUALITIES

The review of the theoretical background of regional tourism development revealed that there are general theoretical approaches that explain the developmental impact of tourism on the economies of developing countries, within the international division of labor. Specifically, the theories of the life cycle of tourist destinations interpret the development process of tourism and provide a good framework for tourism policy. The approach of endogenous growth models, can lead to achieving integrated sustainable regional tourism development, as those models focus more on the interaction of economic tourism activity and ecosystem.

The evaluation of the survey results showed that in Greece there is balanced development of tourism, despite the fact that tourism inequalities over time were alleviated. It is found that there is a high concentration of tourism in Greece's island regions, namely 35% of the total tourist traffic and 60.83% of total overnight stays were made on islands (Ionian Islands, North Aegean, South Aegean and Crete). This causes a spatial centralization of tourism development which adversely affects the rest of the country. The concentration of tourism development on island regions, which exhibit comparative advantages over other parts of the country, increase, to some extent, the regional disparities and brings to the fore the problem of their alleviation with the emergence of new tourist regions.

In addition, the analysis of the above data highlight the interregional inequalities with the apparent financial soundness of some regions due to the development of tourism on one hand and on the other the problematic regions which are characterized by depopulation, unemployment and intense intra-regional disparities. Differences are expected in the tourism sector, not only because the available tourist resources vary from region to region, but also because regions have different developmental options. The general problems that contribute to the creation of tourist inequalities are identified below:

- Inadequate tourism infrastructure (Eastern Macedonia & Thrace, Western Macedonia).
- Unorganized tourism development (Central Macedonia).
- Poor transport systems (Epirus).
- Limitation of tourism activity only in coastal regions (Thessaly).
- Unequally distributed tourist activity either by unorganized development of tourist areas (Central Greece, Ionian Islands) or by downgrade services offered and environment (South Aegean).
- Unorganized expansion of tourism activities in coastal areas (Peloponnese).
- Uncontrolled growth of tourism activity (Crete).

In general, it appears that the development of tourism in Greece has a polar character whose center is the island complexes, where almost 52% of hotel beds are located in three regions (Crete, Dodecanese, Macedonia). Those regions have a specific pattern of development, that of mass tourism model, in which postwar development of the tourism industry in the country was relied on. However, there are regions that have unexploited tourist resources which can be used in the context of endogenous

integrated tourism development. In addition, it is found that the main cause of creating tourist inequalities remain the structural problems of Greek tourism and especially the law, which at times encouraged the unbalanced concentration of tourist activity, and the incorrect development planning of the postwar period which led to over-concentration tourism supply in some areas, their reckless charge of the natural environment, saturation and decline in some areas. These resulted to the creation of a contradiction in tourism development leading to low efficiency and consequently low competitiveness in tourism. The contradiction is based on the observation that the increase in the overall size of the tourist exchange is not associated with a corresponding increase in average per capita tourist expenditure in deflated prices, on the contrary there is a declining trend. This is an indication of a low income level of tourists which affects greatly the quality and the currency capabilities of Greek tourism. On the other side it is not taken into account nor is assessed the contribution of domestic tourism which is an essential parameter for a balanced development of tourism.

However, Greece as a tourist destination, has unlimited possibilities to diversify and strengthen its position in the international tourism market, by exploiting its comparative advantages i.e. tourism resources that are scattered throughout each region that make it stand out from others Mediterranean destinations. The effort for balanced regional tourism development requires the identification of a tourism strategy and policy based on the selection and intensification of specific forms of special and alternative tourism, that confirm the positive economic impact on the regional economy. This enhances the productive base of the economy of each region and utilizes the available tourist resources, according to the modern concept of endogenous integrated sustainable regional development.

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